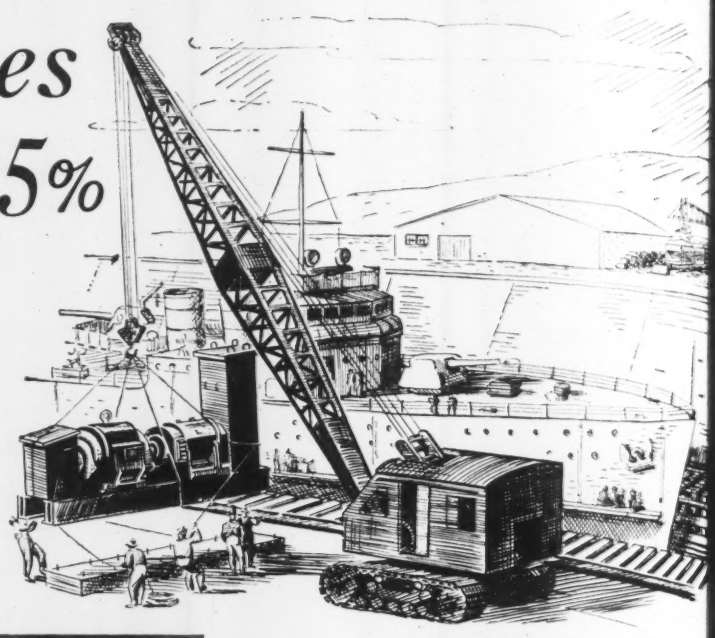
ENGINEERING NEWS-RECORD

nodical hand labor methods characterize earth moving operations in Brazil—See p. 1.

The Motor-generator Set that Saves Copper...85%

By
W. P. HEARSMANN
Industrial Department
General Electric Company



SUPPOSE you have grown up with ships—not sailing them but building and repairing them. And assume you have become the manager of a large shipbuilding and repair concern. With the outbreak of war you find that you have to expand your repair-dock facilities to meet the increased demands upon them.

In order to give adequate service to the ships that will depend upon your port facilities, you know that the dock must be equipped to supply several types of electric power; 110-volt, d-c auxiliary power; 110/220-volt, 3-wire auxiliary power; 110-volt, 3-phase a-c; and 220-volt, 3-phase a-c. Lately, too, ships are being equipped with 440-volt, 3-phase a-c power.

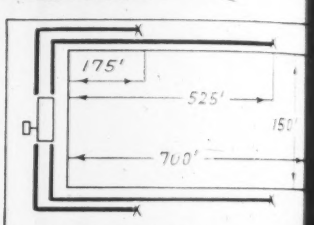
Obtaining copper for the necessary electric cables presents a serious problem. You recall having seen docks with cable ducts (in cross section) as big as 5 to 6 feet high and 3 to 4 feet wide, in order to supply ships with so many different types of electric power.

You talk the problem over with several manufacturers of electric equipment, and one of them suggests a system for your dock which will enable you to service any ship, and which will require considerably less copper than the conventional layout!

Instead of providing heavy copper ducts to supply both a-c and d-c, he suggests that you lay down a *basic network of relatively light copper to supply 2300-volt a-c over the entire dock area.* He points out that by this means several thousand kilowatts can be supplied at any point of a thousand-foot drydock, with power-outlet receptacles spaced as closely as desired. At these receptacles can be placed *portable unit motor-generator sets*—consisting of motor and generator, control, and motor magnetic switch. They can easily be moved about by the cranes, which are part of your standard dock equipment. Of course, rectifiers can be used, and in cases where a-c power is needed, portable transformers can be placed at the power receptacles. The shore cables from the ship are then connected to the terminal receptacles which have been provided on the portable equipment.

While this suggestion may sound revolutionary, it has been recently applied successfully by the General Electric Company. The saving on copper can be computed from the accompanying diagrams. *The advantages of the system shown in Fig. 2 are that the voltage is improved, distribution losses in the cables are reduced, and 85 per cent of the copper normally required is saved.*

This is another example of the application of experience and skill by General Electric engineers to solve a problem created by today's conditions. If you have similar problems, we would like to work with you. General Electric Co., Schenectady, N. Y.

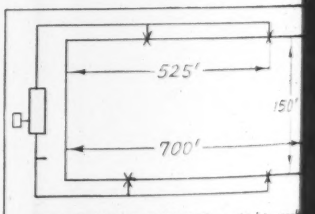


CIRCUIT LAYOUT to deliver 125 kw 125/250 volts d-c at four designated distribution centers from an a-c–d-c conversion substation.

REQUIRES 1850 feet of d-c circuit cable including lead-ins consisting of two 500,000 cm mains and one 4/0 neutral.

6900 pounds of copper needed

Fig. 1



2300-VOLT SYSTEM required to supply a-c power at four designated points to portable 125-kw 125/250-volt unit motor-generator sets.

REQUIRES 1350 feet of 3-conductor a-c cable, including lead-ins.

1045 pounds of copper needed

Fig. 2

The best investment in the world is in this country's future.
—BUY WAR BONDS

GENERAL ELECTRIC

655-30-1200

The Week In Engineering and Construction

GINEERING NEWS-RECORD • OCTOBER 14, 1943 • VOLUME 131 • NUMBER 16

A new power administration established for the southwest

ew agency will sell power from War Department's enison and Norfork Dams as well as generate and sell ergy from Grand River in Oklahoma.

President has designated Secre- f the Interior, Harold L. Ickes, as for the sale and distribution of c power from three southwestern cts. Secretary Ickes, in turn, has set der the Interior Department's power on, a new agency known as the western Power Administration to charge of the work. Douglas Wright, rly special representative of the Federal Works Administration for the Grand, or Pensacola project in Oklahoma, where he operated the dam and sold the power, has been named administrator, with headquarters at Tulsa, Okla.

The three projects are the Denison, Norfolk and Grand. Both Denison and Norfork Dams are being constructed by, and will be operated under, the supervision of the Chief of Engineers, but their power will be transmitted and sold by the new Southwestern Power Administration.

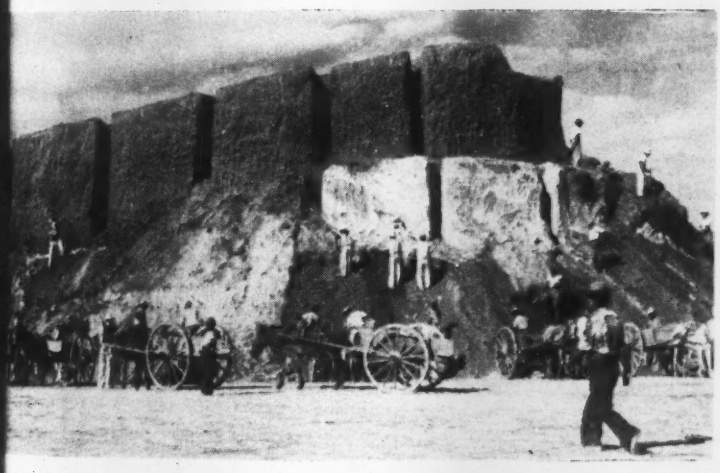
Power from the Grand River Dam, Vinita, Okla., will not only be transmitted and sold by the new authority, but it will also be generated by it.

The Norfork project, with a one-unit capacity of 25,000 kw. was built by the Corps of Engineers, and turned over to the Federal Works Administrator last June. The Grand River project, with a capacity of 60,000 kw. from four units, was constructed by means of a loan and grant from the Public Works Administration of the Federal Works Agency for the State of Oklahoma, but since 1941 had been operated by FWA.

It is expected that after the war the Grand River project will be turned back to the State of Oklahoma, but that power from the Denison and Norfork projects, generated by the Army engineers, will continue to be marketed by the Southwestern Power Authority.

It has been pointed out that though these three projects are located in a single region where power is now scarce, they are in different watersheds, a fact that leads engineers to believe that the water supply of each should be available to augment that of the others in case of local scarcity.

Power has been sold at Grand River since 1940. It is expected Denison and Norfork will begin operation early in 1944. Power will be available first to war industries, next to government agencies, and then to others who may need it. The new authority has power to build interconnections, and to use those of existing utility lines if expedient. Other projects are planned for the area after the war, but it is not known whether or not these, also, would be put under the Southwestern Power Administration.



Earth-moving practice on a Brazilian railroad job.

rtages of equipment in Brazil, where much uction is being done to aid the Allied fort, is providing an opportunity for American engineers to learn some new in the use of hand labor.

the job pictured above are shown the ds used in leveling a hill of volcanic the site of a railroad switching yard. a series of parallel vertical slots are with pickaxe and shovel to a depth of 3 ft. Then an entire slab of earth be- two slots is pried loose from the top, for this purpose long wood poles.

n the consolidated block of material ed out far enough, gravity forces come lay, the block crashes down, and it completely disintegrates. The material is then loaded on to two-wheel dump wagons pulled by burros. After a wagon is loaded, the burro is given the Portuguese equivalent of "giddap", and he trudges off, driverless, to the dumping area. After the load is emptied, the burro comes back with his wagon, again unattended, with the exception of a few "expediters" stationed along the route.

The photo above was taken near the Itabiri iron mines where Parsons, Brinckerhoff, Hogan & MacDonald, consulting engineers of New York, are engaged in the improvement of the Victoria-Minas Railway. A contract to speed reconstruction has just been awarded to the Morrison-Knudsen Co., Boise, Ida. *(see p. 7)*

• • •

Chicago's first subway to open next week

With its final stages of construction rapidly drawing to a close, the first link in Chicago's long-awaited subway is scheduled to begin operating on October 17. Commonly called the State Street subway, it connects with the present north side elevated lines at Armitage Ave., and extends along under Clybourn Ave., Division St. and State St. to 16th St. on the

(Continued on page 12)

Wide fluctuations noted in need for engineers in services and on war jobs

Periodic sudden demands explain why engineering continues on critical occupations list in the face of possible increase in unemployment—Older men most difficult to place.

A situation has developed in which engineers are continued on the critical list by the War Manpower Commission, and at the same time there is increasing evidence of unemployment among engineers. While this inconsistency is admitted in Washington, a number of reasons are advanced to explain it.

In the first place, with government and other calls for engineers varying from month to month and week to week, as they must do so long as men are called into special branches of the service on the basis of the needs of a fighting war rather than on the basis of theoretical needs, there is bound, it is pointed out, to be fluctuation in the demand-supply ratio, and it is apparent that some surplus is required to cushion that fluctuating need. Furthermore, what appear to be fluctuations may be interpreted as the result of unavoidable emphasis on immediate demands as they appear periodically in the over-all, long-range requirements. For example the recent recruiting of engineers may have diminished the supply, but this may well be increased again as men are released from war construction projects.

In the Army alone, engineers are needed in numerous branches and categories, including the Corps of Engineers, the Sanitary Corps, and the Military Government Service. As an example of an immediate need, the Military Government Service of the Army has openings for a limited number of experienced, graduate sanitary engineers between the ages of 38 and 50. Engineers interested can obtain information from the Sanitary Corps of the Medical Department, U. S. Army, Washington. On the other hand, illustrative of the Army's long-range planning, is the fact that by the end of 1944, 50 per cent more sanitary engineers are expected to be needed for both the military government and the sanitary corps branches than are in these services at present.

Similarly, the Officer Procurement Service a few weeks ago announced that a limited number of Army commissions were available not only for sanitary engineers, but also for other highway, heavy construction, and other types of engineers. The Service soon got all the men it needed and withdrew its call late in September, without announcing when it would call for more men.

Another branch of the service now needing about half a dozen engineers in a different specialized field prefers not to have its needs publicized because of the rush of applications it anticipates would result. This certainly is indicative of a still ample supply of engineers in even so specialized a field as that in question, and gives credence to the belief of engineers that there is insufficient demand for their services.

Release of engineers

If that be true now, the present trend will act to intensify the situation, for in addition to 175,000 persons, including many engineers, who have been dropped through the Civil Personnel Branch of the federal government, there is a continuing reduction at the rate of 5,000 a month. This is due primarily to the fact that the Army's construction program is now approximately 90 per cent complete.

Engineers in the overseas forces are attached either to general engineer regiments for combat duty, or to special service units. For combat duty the Army has held that the first requirement is military training, and that any special construction training can be acquired after men are taken into service. These units are organized and equipped to do such construction work as is required on warehouses, docks, railways and roads; and to construct small military bridges, to build and demolish obstacles, and to set mines. For this type of work the need has been not for graduate engineers, necessarily, but for men with construction, highway and airport experience.

The special service units, on the other hand, are organized and equipped to do a particular job, such as providing water supply. Since both of these types of units are now pretty well supplied, there is no great demand at present for engineers overseas.

Turning to the other side of the picture, engineering, as has been mentioned, is being continued on the critical occupations list (ENR, Aug. 19, p. 306). Furthermore, the Army Specialized Training Program is continuing its [illegible] for engineer recruits. It not only [illegible] the Army well picked of men with [illegible] cient mathematics, physics and other [illegible] engineering training to make them [illegible] gible for advanced engineering [illegible] but it also is placing draftees in the [illegible] versities for study. After a period of [illegible] training they are graduated into [illegible] vanced engineering courses. Of the [illegible] than 100,000 men enrolled for this [illegible] gram in about 200 colleges, more are [illegible] rolled in engineering than in any [illegible] other courses, which include [illegible] languages, personnel psychology, [illegible] medicine and related studies. Advanced [illegible] courses include civil, mechanical, [illegible] trical, and sanitary engineering.

Since these men are trained [illegible] for the Army, that is where they [illegible] "In very exceptional cases," however, [illegible] quote from the rules, men completing [illegible] their course of study may "be [illegible] available for technical work to be [illegible] out of the Army, but deemed to be [illegible] important to the war effort."

This, presumably, would take [illegible] industries. In this connection, it is [illegible] teresting to recall that the War Man[illegible] power Commission's Bureau of [illegible] ment recommended as long ago as [illegible] April that serious consideration be [illegible] to releasing to war industry part of [illegible] June graduates in engineering colleges [illegible] to the armed forces through membership [illegible] in reserve components. Forty per cent of [illegible] the 17,000 engineering graduates [illegible] said to be so committed.

Sanitary engineers scarce

Col. W. A. Hardenbergh of the [illegible] tary Corps believes it is the older men [illegible] unusual knowledge and experience [illegible] in the upper bracket of the engineering [illegible] field, who have not found their place [illegible] the war program. He pointed out that [illegible] the case of the Sanitary Corps, commissions go only to men 45 years of age [illegible] younger, and that though the medical [illegible] corps recommends for Military Government Service must be at least 38 [illegible] can not be over 50. It is the view [illegible] men with both engineering training [illegible] experience who are scarce, he said, [illegible] is why eligibles for the Sanitary Corps, [illegible] many of whom are far below the maximum age, are classified as a "[illegible] category." The Bureau of Placement's [illegible] report of last April—which gives the [illegible] latest figures available—said that civilian [illegible] gineers made up but one-third of [illegible] types of engineers; and specifically [illegible] that while there was a scarcity of

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, there was a surplus of civil engin- with the exception of those in the ary field.

gineers in fields in which there may surplus supply *must* make them- useful in some field in which there scarcity, one personnel officer de- d, even though it may be in a job is of secondary interest to him. id the men who are taking refresher es are succeeding in making them- useful in new fields.

this connection, a late September rt of the Aircraft War Production cil, Inc., representing eight air- firms, says there is still a critical age of skilled aircraft engineers. ds that job training is enabling in- ienced persons to work even on the n board, where only the most ex- nced engineers were formerly used.

. . .

Wage Board to include contractor and "public"

rst public mention of the proposed anization of the Wage Adjustment d (*ENR*, Aug. 12, 1943, p. 241) to private construction wage adjust- s under its jurisdiction and to give ractors representation on WAB was by William H. Davis of the Na- l War Labor Board during an LB hearing in Washington Sept. 22 a government contract decision by was being reviewed by NWLB.

. Davis pointed out that there will o major changes in the WAB, one rning its functions and jurisdiction, tie other concerning its set-up by Secretary of Labor. Its jurisdiction e enlarged to include not only gov- ent contract cases as at present, but private-contract cases which now are led by the regional offices of the nal War Labor Board. It is believed ling will be greatly expedited under rrangement whereby decisions will de by a centralized body in Wash- n, which keeps complete data on ailing wages for every region in the ry. The NWLB will continue to an appeal board for both types of as at present.

e new setup will involve member- changes which have not yet been nced. The present WAB which, as been said, considers only govern- contracts, is made up solely of sentatives of labor and the govern- procurement agencies. When re- it will be tripartite, with the pro- ent agencies no longer represented, construction contractors and the having equal representation with —probably three members each. A man will be chosen from among the e members.

Engineers stop work on Inter-American Highway

The U. S. Engineers are reported to have stopped work in Costa Rica on 252 miles of the Inter-American Highway in that country, and it is said they are scheduled to withdraw entirely from Central America by Oct. 30. In response to an inquiry by *Engineering News-Record*, the War Department declined to verify or deny the report or to comment on its activities along the road. However, withdrawal of U. S. Engineers from the work might be interpreted to mean that the 1,569-mi. Inter-American Highway no longer is a war emergency project.

Work of the Corps of the Engineers is well advanced in some sections, but long lengths of the highway were not to be completed until next year (*ENR* July 19, 1943, p. 207, Aug. 12, p. 269, and Aug. 26, p. 339). Two-thirds of the cost of the project was being met with funds Congress provided soon after the United States entered the war. The remaining third was being met by the countries through which the road passes.

Construction of a difficult 71-mi. section of the highway in southern Costa Rica by the Public Roads Administration is to continue, according to E. W. James, chief of PRA's Inter-American regional office in Washington. This section climbs to an elevation of 10,900 ft. and will require 13,000,000 cu.yd. of grading, including about 50 percent of rock. It, however, is not to be completed until 1945. This construction, plus about 20 permanent bridges in Costa Rica, Nicaragua, and Honduras, and El Salvador, is the only work PRA is doing at present.

Mr. James, who recently returned from Central America, reports, "The Public Roads Administration has a five-year program all through Central America. This will continue. But Public Roads is not financially prepared to rush to completion the work which the Corps of Engineers is dropping unless more money is forthcoming, and this is most unlikely. In order to prevent economic and perhaps political repercussions, it is very necessary that this work be carried on, and it can be with funds authorized, if spread over the five years originally allotted."

Col. Edwin C. Kelton, director of the work on the road by the Corps of Engineers, has been transferred to Salt Lake City to become division engineer of the Corps' Pacific Division. He succeeds Gen. Warren T. Hannum, who has retired, having reached the age of 60. A report from a Little Rock, Ark., correspondent, not verified by Washington, states that Lt. Col. W. W. Zass, formerly chief engineer of the Arkansas State Highway Department and more recently area engineer in charge of the Managua, Nicaragua, office of the Corps of Engineers, has taken over Colonel Kelton's former duties.

Petroleum Engineer Photo from Acme

Big Inch, Jr., crosses Arkansas River

Known among the constructors as Big Inch, Jr., a 20 dia. pipeline being laid generally parallel to the 24 in. dia. "Big Inch" (ENR, Dec. 31, p. 915) is shown being lowered to the bed of the Arkansas River from a specially rigged barge. The new and smaller line will extend from the Houston-Beaumont, Texas, area via Little Rock, Ark., and Norris City, Ill., to Philadelphia and New York.

The new line will be about the same length as the 1388 mile Big Inch. It is expected to carry 235,000 bbl. daily of finished products, gasoline and the like, compared to 300,000 bbl. of crude oil for the larger pipeline.

Construction of the 20-in. line was authorized before the eastern section of the Big Inch was completed, so river crossings for both lines were made simultaneously in one trench to avoid returning with crews and equipment. Separate crossing construction is necessary, however, on the Texas-Illinois section of the line. This part of the line is now well along toward completion.

Both lines are supervised by War Emergency Pipelines, Inc., and are being built by contract.

Journey to Attu and Back

Harold W. Richardson
Western Editor, Engineering News-Record

Mr. Richardson has just completed a 34-day tour of inspection of the fine work being done by our Army Engineers in constructing a chain of strategic airports in the Aleutian Islands; much of the completed work having been done under fire from Jap planes. Highlights of his trip are vividly portrayed below.

Somewhere in Alaska—After 34 days in the Aleutian Islands it seems mighty good to get back to a civilized army base on the Alaska mainland where the Williwaw winds don't flatten your tent by night and smack you down by day, where the Bering Sea and Pacific Ocean don't alternate in drowning you in howling storms, where the fog doesn't boil right up out of the ground, where you walk on gravel walks and roads instead of slugging through endless mud and deep swampy tundra, where trees are a part of nature as God intended them to be, where you eat in clean, bright messhalls instead of in tents filled with drifting sand that seeps into your food, clothing, eyes and ears, and, probably best of all, where the plumbing is up to American standards.

That 34-day trip, extending clear out to Attu, our last outpost in the North Pacific this side of Asia, was both an experience and a revelation. It was the never-to-be-forgotten experience for an engineering editor to live and travel with the army under all war conditions except actual combat. It was a revelation to an old construction stiff to see the astonishing progress the Army Engineers have made in building a series of bases all along the Chain (as the islands are called up here) in incredibly short time. It is a construction program that warrants attention even in these days of gigantic projects—construction where every stick of wood, every bolt and nail, every piece of equipment, with parts and fuel and lubricants to keep it rolling, and all sustenance, shelter and supplies must be figured in advance, procured and then transported thousands of miles through unchartered waters. It is construction under the worst conditions of weather, supply and lack of adequate equipment. It is construction that makes the American people proud of their Army Engineers.

Army built the Aleutian bases

Contrary to reports that are generally current, it is not the Seabees but the Army Engineers who are building the Aleutian bases. Navy construction units are at almost every Aleutian post, but are concerned solely with naval facilities and their own housing. Both Army and Navy construction units are doing the jobs that were assigned to them in a manner that excites admiration and respect.

There is no room in these notes for a description of construction operations, as detail articles will follow, but a few high spots are worthy of mention here. At Adak the Engineers built one of the most amazing airports in the world, and did it in a hurry. The Army Engineers landed in advance of the task force, and had to build a landing field immediately. There was no time for leisurely reconnaissance or engineering studies, or even instrument surveys. With uncanny snap judgment they located the first runway on a tidal flat that was submerged at high tide and drained by a creek at low tide. A sand dike hurriedly built across the lower end of the flat kept out the high water; breaching the dike with a bulldozer permitted the creek to drain at low tide. Whole sand dunes were shoved into swampy areas, while tide-packed hard sand sections were merely smoothed down. Steel runway planking was laid on the sand fills, and in *five* days after the amphibian landing of the first troops a bomber landed on a 3,000-ft. runway. Within 11 days the field accommodated more bombers and a whole flock of fighter planes. A timber tide gate now replaces the sand dike, the creek has been diverted outside of dikes protecting the field, and pumps take care of infiltration within the dikes, but the finished airport is [illegible] about as it laid out in those [illegible] A second runway [illegible] more swamps by moving more dunes for fill.

From Anchorage to Attu is about 2,000 miles. Richardson went out by boat and back by plane.

Building under fire

At Amchitka I [illegible] a fighter strip was built under incessant daily bom[illegible] by the Japs from nearby Kiska. S[illegible] engineer soldiers paid with their li[illegible] get this runway built for the prote[illegible] of the rest of the force. Jap radars apparently could keep track of our f[illegible] planes and, when the island was unprotected, enemy bombers came at leisure, too high for our anti-air[illegible] guns. Direct hits on the uncomp[illegible] runway were evidence of the accura[illegible] Jap bombing. The day after the was finished, and our fighter planes [illegible] base there, it was a different story. enemy bombers came over as usual our boys went after them and kn[illegible] both into the sea. That was the en[illegible] more Jap planes ever came back more. This first strip wasn't surfaced length with steel plank. The center tion is still rolled sand fill stabi[illegible] with calcium chloride. Other run[illegible] have since been built at better loca[illegible]

Because of the battle to take th[illegible] land, Attu is probably the most inte[illegible] ing of all the Chain projects. Here engineers landed and fought beside[illegible] rest of the task force, building as advanced. Here a contingent of eng[illegible] troops made military history by chec[illegible] then annihilating nearly 1,000 Japs broke through the front lines to tip[illegible] the whole campaign. Here a ham[illegible] shaped spit of land extending int[illegible] bay was turned into a pair of matted runways in a few days. He[illegible] pier big enough to accommodate Liberty ships was driven and dock[illegible] less than three weeks. And here a tem of fine roads is being built in of the roughest terrain in the Aleu[illegible]

Those are merely some of the spots. A full record of construct[illegible] the Chain would fill several vol[illegible] Because plane and boat transport is so vital to Aleutian operations, fields and docks are first in orde[illegible] construction, but along with them built the roads, troop housing houses, hospitals, shops, water s[illegible] and sewerage necessary to suppo[illegible] army base. West of Kodiak there a single tree in the entire Chain. ground is mostly tundra—a wet, tal mat overlying soft muck, simi[illegible] muskeg without trees—with occa[illegible] sand dunes and rock outcrops bre[illegible] through the tundra. Most runway[illegible] surfaced with steel, usually pierced type, a construction material of [illegible] beyond calculation for the purpo[illegible]

Much of my time during the trip was spent in traveling or w[illegible] for—"sweating out"—transpo[illegible]

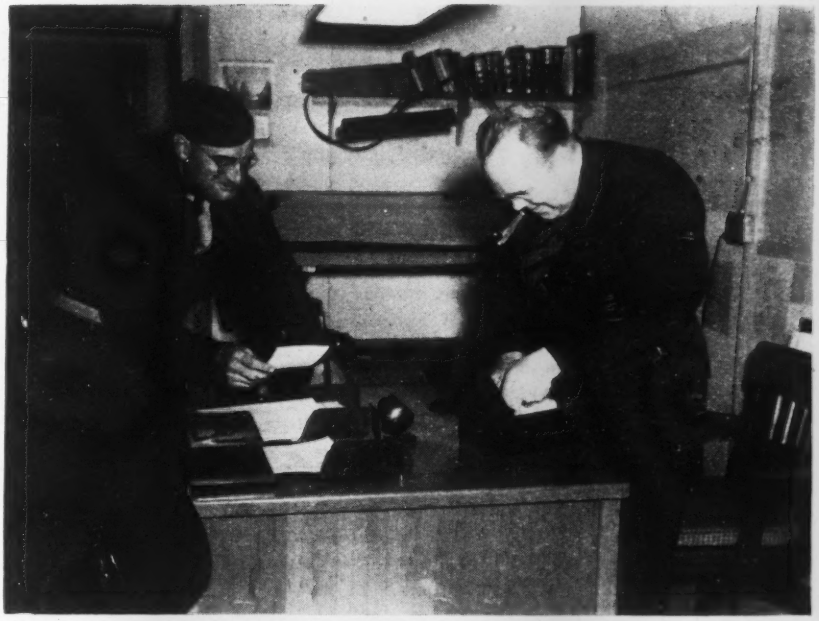
1 *(Vol. p. 566)*

such traveling experiences as mine
time to those working the Chain,
ter or worse than the average,
y be of interest. I'm not kicking
he hardships and inconveniences,
rything I encountered has been
hundreds of others. My troubles
w days are those of weeks and
to others. As a correspondent I
and lived as an army officer, so
the time I was better off than
ps.

Primitive accommodations

two weeks of waiting I em-
from Seward on an army trans-
e SS. W——, a Liberty freighter
d, or rather supposed to have
verted, to a troop transport. The
s loaded with troops, high ex-
ammunition, aviation gas, diesel
coal, artillery and construction
nt. Accommodations were primi-
express it mildly. There were 12
signed to an 8x12-ft. windowless,
wooden penthouse aft of the
k. The shack was almost filled
r tiers of bunks three high:
s no room for baggage—you had
with it—and no place to sit
The door had to be kept closed
the nightly blackout periods.
on deck was just as crowded,
s no place to walk or to sit down.
standing against lifeboats and
ar in the few limited open spaces.
help me, if the ship's crew
int the lifeboats and every other
post. A couple of boxes sal-
om the galley served as stools
day, but the night patrol threw
rboard and there were no more
nd.

e first two days all was confusion.
the ship's first trip as a trans-
d inadequate equipment and a
w didn't add any comfort. Then
e of coast artillery captains—
ss them—stepped in and took
They organized the boat. Fire,
nd police patrols were estab-
ess hours were stabilized, and
and fire drills were held. Dur-
first gun drill, when all pieces
d to see if they were in proper
order, one of the two blinker
f the bridge was shot away, to
ring disgust of the skipper.
urney settled down to routine
day, then we hit our first bad
nd high seas—and I the worst
t ever left the Colorado Rockies.
f inadequate equipment we had
y twice a day—7:30 a.m. and
—in one of the holds. It was
s, prepared by soldiers under
ying conditions, but we man-
survive. Standing outside the
stretching out in your bunk for
a time got monotonous, so we
esperate enough to rip out one
unks and turn it into a crude



H. W. Richardson (left) and Associate Engineer Harold Moats of the U. S. Engineers, examine equipment records of an Alaskan base.

poker table in that crowded shack. Aleutian poker may be all right, but it seems that every time my hand was topped the ship would go into a sickening plunge and roll, so I lost interest in the game very rapidly, almost as fast as I was losing chips.

The Port Penthouse members held a conference and agreed our best bet in case the boat was sunk was to stick with the shack, as it would surely float away. Accordingly, a set of oars was kept handy at all times, ready to paddle our cozy home across the waves to goodness knows where.

At Dutch Harbor

After getting lost in the fog the morning of the fourth day, stopping repeatedly to take soundings, we finally worked within earshot of the Scotch Cap foghorn, and eased along all day to reach Dutch Harbor late in the afternoon. A navy speedboat met us with information that immediately we were to join a convoy heading west to Adak. But we thought we were supposed to stop at Umnak to discharge some troops and cargo. Nothing doing, assured the navy, all was changed, we were to follow the convoy all the way through without stopping. We did manage, however, to borrow a new blinker light before shoving off. Late the next day we were ordered to turn around, go back to Unmak and make the stop according to original arrangements. Anxious to get to Adak, I watched the convoy disappear into the western gloom with a heavy heart. By that time we all agreed the situation was FUBAR (politely translated: fouled up beyond all recognition). We lost three days by that maneuver, but finally got to Adak the tenth day.

I have many never-to-be-forgotten memories of that trip on the W——, but one stands out above all the rest. That was a church service held on Sunday morning in one of the holds. Wearing lifebelts, as we did at all times, we sat on cases of ammunition and listened to an inspiring sermon delivered by a young chaplain using an upturned dishpan for a pulpit. Music was furnished by a violin and ukulele, a combination I never heard before.

Those of us in the penthouse thought we were uncomfortable, and we were, but all grumbling ceased after a tour through troop quarters in the holds. There the sight of hundreds of boys living in closely-stacked tiers of net hammocks, five high, in dismal light and poor ventilation made us thankful for what we had. Many, in fact most, of those boys below decks became seasick during the storm.

After a few days at Adak, during which I covered the project with one eye and an ear cocked for transportation westward, I learned that the T——, another transport, was leaving soon for Attu. I presented my papers, and was told to be on board at 9 a.m. Wednesday morning. At 10 a.m. we shoved off from the pier, steamed 3 miles out and then dropped anchor. So help me again, we sat right there four long days, until 9 p.m. Saturday night. We couldn't go ashore, for we were to sail any moment, but no one, not even the skipper, knew what we were waiting for. The T——, though a smaller boat than the W——, was much more

(*Continued on page* 11)

Letter from LATIN AMERICA

By Edward J. Cleary
Managing Editor, Engineering News-Record

Cochabamba, Bolivia, Aug. 15—So much is happening so fast that there has been little time to collect my thoughts, let alone write. Therefore, only the briefest recital of general impressions can be recorded now.

From Lima, Peru, I went to La Paz, Bolivia, an 800-mi. hop during which you start near sea level, rise to 21,000 ft. and then land at one of the highest airports in the world—that at La Paz, where the altimeter reads 13,403 ft. But you don't need instruments to indicate the elevation; as you step from the plane in which you had the benefit of frequent "drags" from an oxygen tube, you reel unsteadily for a few minutes and breathing comes hard. If you are lucky (and I was) you avoid high-altitude sickness, which it will be remembered by those who saw Walt Disney's "Saludas Amigos," is what Donald Duck suffered when he made his goodwill tour.

Getting off in thin air

The clay-gravel runway at La Paz is one and a half miles long, and the transport planes need almost all of this distance to get off because a plane loses 50 per cent of its lifting power at this high altitude. When we tried to get away a cross wind was blowing, and after one wobbly trial run the pilot decided that it was too risky to attempt the take-off. After waiting a day and a half we got away, and I finally got my breath back again at Cochabamba, Bolivia, some 250 miles west and 6,000 ft. lower than La Paz.

At Cochabamba I spent a few days with Captain Anthony Kranaskas, Sanitary Corps, A. U. S., who, is assigned to the construction of health centers for the health and sanitation division of the Institute of Inter-American Affairs. Captain Kranaskas, formerly a sanitary engineer with the Georgia and West Virginia state health departments, is doing a lot of pioneer road-building in order to get materials to the site of some of his health-center construction jobs in northeast Bolivia.

Judging from his stories and the experiences related by Vincent Johnkowski, a road construction engineer of the U. S. Public Roads Administration, who has been loaned to the Bolivian government, the difficulties, on a smaller scale, are akin to those on the Alcan Highway. In one respect they are similar—every drop of gasoline must be transported hundreds of miles in drums. And you get a new appreciation of the ruggedness that is built into American-made trucks when you see the almost impossible (to North Americans, at least) conditions under which they continue to operate in these areas.

Sao Paulo, Brazil, Aug. 21—Arrival here completed one of the longest portions of my trip thus far—about 1,500 miles by air from Cochabamba. It also marked an abrupt transition from dry, barren, mountain country to a lush green area and metropolitan center of Brazilian industry.

Unlike so many industrial cities in the States, Sao Paulo shows few of the scars of industrial activity. Broad and beautifully landscaped avenues, magnificent buildings and fine residential areas lay claim for first attention.

All of this reflects the attitude and energy of a great city planner, Dr. Prestes Maia, a civil engineer, who is now mayor of the city. Ten years ago Dr. Maia laid out a plan for city rehabilitation including circumferential and radial boulevards, stadium and sports center, flood control, central railway center, a 20-story [illegible] and a vast civic center. About one-[illegible] this work has been completed al[illegible] and since Dr. Maia became mayor [illegible] years ago progress has accelerated.

I spent an hour with Dr. Maia [illegible] office that was piled high with blue[illegible] architectural renderings and pictur[illegible] work in progress; the setting was [illegible] different from what I expected to f[illegible] the private office of the chief execut[illegible] a city of 1,400,000. This was the [illegible] shop of an engineer—a doer—wh[illegible] transforming plans into reality.

In company with Dr. H. G. Bai[illegible] ing chief of the Health and Sani[illegible] Mission of the Institute of Inter-Am[illegible] Affairs in Brazil, (now on leave fro[illegible] post of professor of sanitary engine[illegible] at the University of North Carolin[illegible] inspection was made of the Sao [illegible] hydro-electric plant, one of the w[illegible] great high head power projects. [illegible] are 5 dual-unit Pelton impulse whe[illegible] operation, working under a head of [illegible] lb. per sq. in. Total horsepower o[illegible] plant is now 380,000, and several [illegible] Pelton wheels are of 92,000 horse[illegible] capacity, giving them the distinctio[illegible] being the largest of their type.

Nebraska engineer in charge

Designer of the plant is A. W. K[illegible] ings, a native of Nebraska, who is [illegible] president of the Brazilian Traction [illegible] and Power Co., Ltd. Mr. Billings i[illegible] engaged on a number of power pr[illegible] in Brazil, the details of which can[illegible] revealed because of war restriction[illegible]

Penstocks and generating plant of the Serra do Cubatao power project Sao Paulo, Brazil. Some of the Pelton water wheels are 92,000 hp. capacity.

... of roads in Bolivia is not holding up the health and sanitation work of the ...tate of Inter-American Affairs. Here supplies are being loaded on river barges, ...h will be towed by the 24 h.p. diesel engine launch in the center.

... incidental highlight of the trip (fol-...g a 10-course luncheon that began ... cocktails and ended with yellow ...treuse and cigars) was the ride ... the side of the mountain on an in-...d railway where the slope at times ...up to 87 degrees! We all felt slightly ... when the bottom was reached; Dr. ... opined that this was due to the ...-chartreuse but I had some other ...—it was plain jitters in my case.

...me does not permit me to go into ...er details of my three-day visit in Sao Paulo. But I cannot close this note without a special word of appreciation for the attention showered on me by the Institute of Engineers of this city. On my arrival very early in the morning a delegation from the Institute greeted me at the airport and escorted me to my hotel. Later at a cocktail party I was formally welcomed and had an opportunity to meet many of the leading engineers in this vicinity, a number of whom had attended universities in the States for graduate studies.

...zilian railroad job ... Morrison-Knudsen

...nd labor methods are proving too ... for the reconstruction of the 500-... Victoria-Minas Railway in Brazil ... picture, page 1), and last week it ...announced that a contract exceeding ...0.000 had been given to the Mor-...-Knudsen Co. of Boise, Idaho, to ... the work.

...e contract was awarded by the ... Vale do Rio Doce, a Brazilian cor-...ion financed in part with Export-...rt Bank credits, which is engaged in ...oping the Itabiri iron mines in the ...of Minas Gerais.

...e ore is transported from the mines ... port of Victoria on a single-track, ...-gage railroad system that was built ... years ago.

...rk on rehabilitation of the railroad ...include relocation of several sec-... improvement of the existing bed ...eplacement of the light rails with ... sections. It is expected to increase ...ng capacity of the system to 5,000,-...ns yearly. Present load capacity is ...000 tons, but this rate has not yet ... reached.

...ch of the ore is being shipped from ...ria, Brazil, to Great Britain, under ...lease agreements.

House conversion program undertaken in Canada

The government of Canada has embarked upon a million-dollar extension of its house conversion program, as the housing problem in war industry centers in the Dominion is serious. The expenditure is to pay for the conversion of large homes and other suitable buildings into multiple-family units. The plan has already been put into effect in Toronto and Ottawa, Ont., and in Vancouver, and Victoria, B. C. The million dollars is for additional work in Ottawa, Hamilton, St. Catherines, and Brantford, Ont., in Montreal and Quebec, Que., and in adjoining municipalities. The average cost for the construction of the housing units in any one building may not exceed $1,500. Expenditure in Montreal and Quebec combined is not to exceed $500,000.

Munitions Minister C. D. Howe, of Canada, on Sept. 13 said that it had become necessary to reduce substantially the number of construction licenses because of the scarcity of building materials and equipment. All but essential housing projects will be postponed, so priority assistance to group housing cannot be continued. No license for a dwelling will be issued unless structural and material needs are kept to a minimum.

British building mission now in this country

The British Building Mission in North America whose appointment was announced recently (*ENR*, July 29, p. 179) is now here.

The purpose of the group is to take all possible advantage of American experience to aid in postwar reconstruction in Britain.

The mission, headed by Alfred C. Bossom, M.P., architect, includes Sir James Grey West, chief architect and director of postwar building in the Ministry of Works, and Sir George Mowlem Burt, director of John Mowlem & Co., Ltd., building and civil engineering contractors, both of whom are in Washington with Mr. Bossom, and Frank Wolstencroft, vice-president of the Trade Union Congress and member of the International Federation of Building and Woodworkers.

Technical secretary of the mission is T. G. W. Boxall of the British Scientific Association, and J. C. R. Head, a British contractor, is cost adviser. J. B. Harris of the British Ministry of Supply Mission is the mission's secretary in America.

Mr. Bossom, a Fellow of the Royal Institute of British Architects, first came to the United States in 1903 at the age of 22 to handle the re-housing of workers of the Carnegie Steel Mills at Pittsburgh and continued in architectural practice in America. Among the works for which he was responsible are the early portion of the restoration of Fort Ticonderoga, N. Y.; the Seaboard National Bank, New York City; the Liberty Bank at Buffalo; the Magnolia Petroleum Building, Dallas, Tex.; the Federal American Bank, Washington, D. C., and the Petroleum Building, Houston, Tex.

During the last war he planned industrial villages for various United States munitions factories and was a supervising architect for the U. S. Shipping Board. Mr. Bossom has been a Member of Parliament for the Maidstone section of Kent since 1931.

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New levee to be built at Little Rock, Ark.

A plan for a six-mile levee to protect the eastern section of the city of Little Rock, Ark., including the municipal airport, from flood waters of the Arkansas river, has been approved by the real property and airport committee of the City Council. The levee will be 11.2 feet high, three feet above the maximum flood stage.

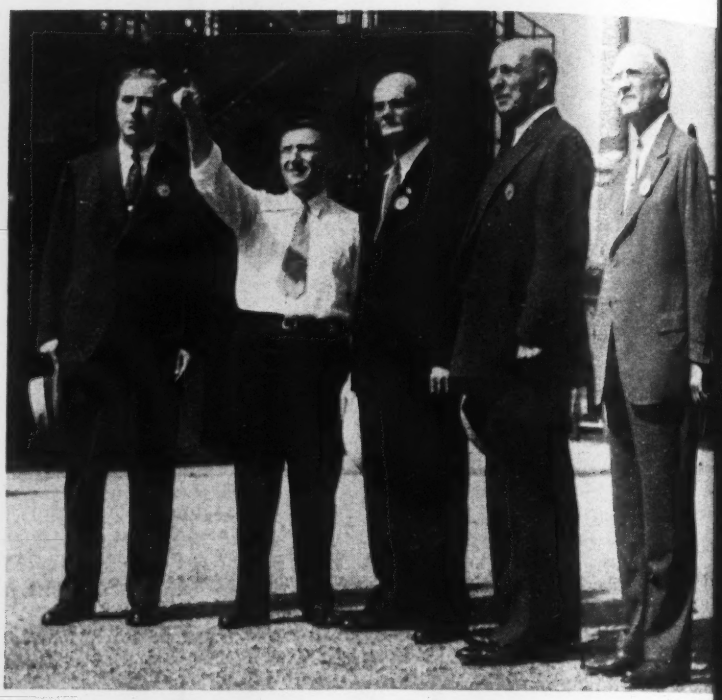
The plans were submitted by H. B. Smith, municipal engineer of the Little Rock district office of the United States Engineers.

MEN AT WORK

Gordon C. Gladman, shown in his office at St. Paul, is Engineer of Plans and Surveys for the Minnesota State Highway Department.

Standing by the intake structure for a 5½-mi. tunnel on the Pit River in California, are, H. W. Haberkron, engineer of hydro construction, Pacific Gas and Electric Co., and George Thacher, resident engineer.

D. E. Larson is resident manager for Chicago Bridge & Iron Co. at a West Coast assembly yard, where vessels of an undisclosed type are being constructed for the Bureau of Yards and Docks of the Navy.



Officials of the Austin Company of Cleveland and Rohm & Haas Co. of Philadelphia are sh at a new flexible glass plant at Knoxville, Tenn., designed and built by Austin for the ma facturing firm. Left to right are J. K. Gannett, vice president of the Austin Company; V. Heinrich, manager of the Knoxville plant and S. C. Kelton, secretary of Rohm & Haas; G. Byrant, president of Austin Company, and J. C. Childs, Austin manager at Philadelphia, retired recently after 27 years with the company.

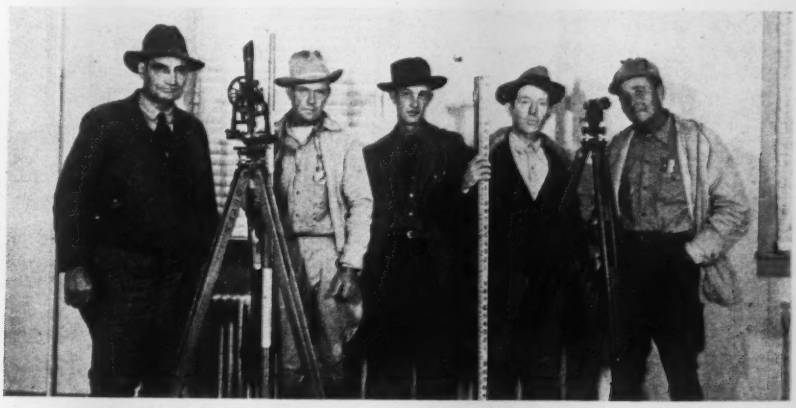
Pictured just after making a series of cylinders in friendly stone vs. gravel concrete strength (ENR Aug. 19, 1943, p. 297) are the following, left to right: L. D. Long, Newark Testing Labo tory, an interested observer; Warren McFarlane, Wm. S. Elliot, and Frank J. Howard of materials section of the Department of Public Works of New York City, under whose supervi the tests were made; Joseph E. Gray, testing engineer of the National Crushed Stone Associati and John V. Carey of the Borough president of Queens testing laboratory.

...iam Stanley Hindman, chief engineer of ...s and railroad crossings of the Ohio De... ...ent of Highways, was graduated from ...ollege of engineering of Western Uni... ...y of Pennsylvania, now the University of ...urgh. He was building and bridge engi... ...for the Union Railroad Company of Pitts... ... 1907 to 1912; assistant professor of ...Engineering, Ohio State University, 1912 ...16; bridge engineer, Ohio Department of ...ways, 1916 to 1920; assistant chief engi... ...f the $1,350,000 stadium at Ohio State ...sity, 1920 to 1923; chief engineer of ...,000 stadium of the University of Pitts... ... and was special bridge engineer, from ... 1929 to Jan. 1939, for the Ohio Depart... ...of Highways.

...o busy engineers with the Ohio State ...way Department are, left to right, George ...materials engineer, and C. B. Cuninghame, ... maintenance engineer for Div. #5, ...adquarters at Newark.

Some of the students of the recent graduating class in Civil Engineering of the University of Toronto obtained experience in diving in Toronto harbor. Left to right, C. J. Townsend, vice president of the Russell Construction Co. Ltd., Toronto, and D. L. B. Hamlin, A. D. Alin, D. Hibbard, Pete Montour (diver), J. G. Love, diver's tender, P. Onosick; M. J. Aykroyd (seated).

Everybody's happy here after the speed record of erecting the Navy blimp hangar arches (seen in the background) in only 156 working hours. At the left is J. R. MacDonald, general erection superintendent, center is J. N. Pomeroy, a foreman and son of J. H. Pomeroy, the principal contractor. At the right is C. J. Haglund, superintendent of sheating erection. Their job is on the West Coast.



On some railroad work of a confidential nature, this engineering party represented consulting engineer, V. V. Long, of Oklahoma City. Left to right: M. P. Riley, railroad engineer; Chas. B. Howe, chief of party; Geo. W. Reeder, project engineer; E. C. Hielman, railroad engineer; and Parker E. Costilow, level party chief.

WASHINGTON HIGHLIGHTS

The Maritime Commission anticipates that its 1944 deliveries of ships in its wartime shipbuilding program will equal or surpass its 1943 delivery of 20 million deadweight tons. This would bring wartime production by the end of 1944 up to 50 million deadweight tons.

Present delivery schedules for 1944 call for 339 Victory ships, 820 Liberty ships, 300 C-Type cargo ships, and 340 tankers, making a year's total of 1,799.

The War Production Board has appealed to carpenters and contractors to be economical in their use of lumber, declaring that by so doing they can save approximately a billion board feet this year. It advises: use the most available and least expensive grade of lumber that will serve the purpose, buy lengths and widths that require the least reworking, save cut-off pieces for later use; salvage and re-use concrete forms, braces and similar non-permanent construction items.

Under a new decentralization plan of the War Production Board, the 13 regional offices and the 92 district offices will relieve the Washington headquarters of a great part of total WPB responsibilities. The field offices will be given more work to do in processing applications and acting on appeals.

More detailed plans are being worked out by the Operations Council, with which regional chairmen will work directly, according to H. G. Batcheller, operations vice chairman. Under the new setup, the position of deputy vice chairman for field operations has been abolished. A new Field Service Office, under Harcourt Amory, formerly assistant to the field operations vice chairman, has been established.

The change-over followed a study instituted by Mr. Batcheller which indicated that a considerable percentage of applications for priority assistance and allocations could be handled as competently, and usually in less time, in the regional offices.

Another change, expected to be put into effect after the first quarter of next year, will be, wherever possible, to handle authorizations on a yearly instead of a three-months basis.

Excessive depreciation in rented buildings was reported by 35 per cent of 287 cities responding to a survey made by the National Association of Real Estate Boards. Five percent of the cities reported deteriation had gone so far as to affect structural soundness.

"Rent control," the survey report points out, "is definitely and very generally discouraging or preventing normal repairs. In conjunction with unavoidable wartime difficulty in getting building materials for repairs, the present type of rent control is thus dangerously accelerating the depreciation of residential structures."

An additional $400,000,000 would be made available for war housing under H. R. 3291 which was introduced in House Sept. 21. The bill amends National Housing Act under which $1,200,000,000 was previously authorized.

Technical information on materials, and problems concerning construction equipment and other products being made available to manufacturers through a new Technical Advisory Service set up by the Smaller War Plants Corp. in 14 regional offices.

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World's largest hangar planned for Los Angeles

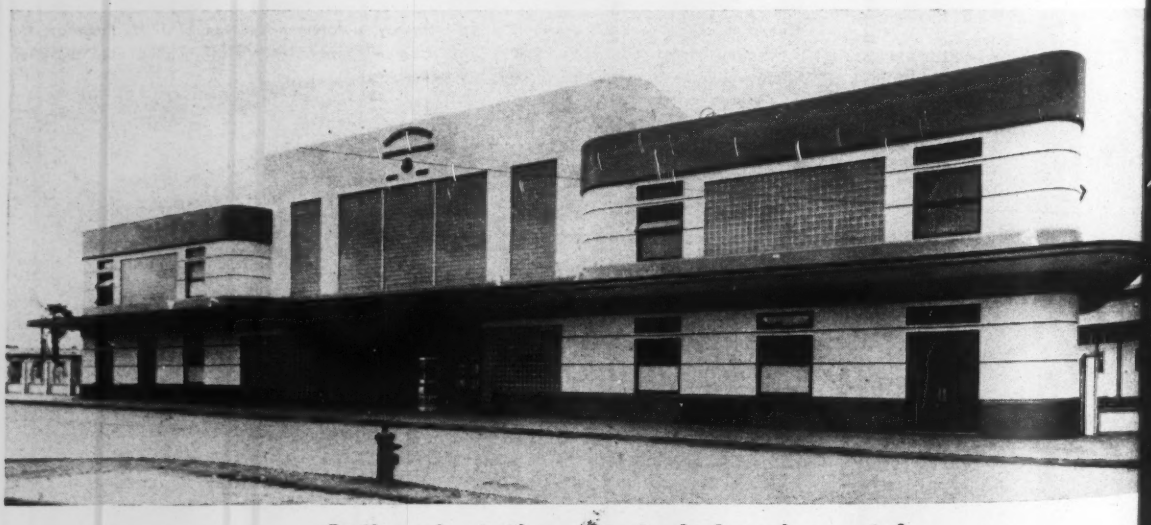
Los Angeles' airport commission recently approved a lease with the Defense Plant Corporation for construction of the largest hangar building in the world. Before the structure can be erected, the lease must be signed by the Los Angeles city council.

The hangar development will be located at the south side of the Los Angeles municipal airport and will be 1,000 by 650 feet.

As soon as the Defense Plant Corporation builds the structure it will be sold to the Douglas Aircraft Corporation and will be devoted to war work at the outset, but in peacetime it can be converted for use for the maintenance and servicing of commercial aircraft.

The airport area listed in the proposed lease to DPC covers 12½ acres. The city would derive $500 an acre per year rental from the government for 20 years.

Construction will begin immediately if the city council approves the lease.



Railroad station, Central American style

One of the most recent railroad buildings to be completed in Central America is the new two-story station built at San Jose, Costa Rica, by the Pacific Railroad. Outstanding feature of the modernistic reinforced-concrete structure, located on a 50 x 165-ft. site, is the use of glass block in the walls to make an attractive and well-lighted building.

On the first floor are the waiting room, ticket offices, information booth, a large baggage department and the telegraph o

On the second floor are a library and a of the executives of the railroad, whic owned by the federal government of Rica.

rney to Attu and Back

(Continued from page 5)

rtable. We had a heated, clean instead of the penthouse, and three a day instead of two. The meals excellent, and I nearly fainted uniformed waiter at my first meal rd handed me a menu that offered ce—quite a relief from the single te, no-choice, no-seconds fare on —. We arrived in Massacre Bay n Monday night in a dense fog, ter smacking the sub net a couple es we slid through the opening nchored. Early the next morning cked.

On the battleground

resident engineer kindly offered pare cot in his tent, very comfort- uarters except for the night the aws shook the canvas so hard the ipe fell down twice and the metal eak took off for parts unknown. s Engineer officers who were there battle took me in tow. I went nost of the battleground foot by nd could readily visualize the ad- made under fire of enemy snipers, e guns and artillery hidden in the eaks among the clouds. I stood on er Hill, as it is now called, where gineer contingent was camped at ne of the Jap break-through, while pointed out how they used a built road as breastworks in fight- ps working up from the front, mped to the other side of the em- ent to escape the fire from enemy ments that had filtered through to r.

sday night a 60-mile gale was g, and it lasted all day Friday. er, Friday morning I was ready e for a neighboring island. Ar- ents were made to ride a tug. I long look at the size of the tug, look at the raging seas outside bor, and decided I didn't want to place. The tug's skipper soon de- e didn't want to go either, so I o dumb after all. Early Saturday I boarded another, but smaller, e wind was still blowing a gale, clouds were lifting. We hung the pier until noon, then a trans- n officer spotted us and ordered be loaded with fresh rations. k all afternoon and evening, so as passed out that we would sail Sunday morning. I went back ent, and a message soon reached we would sail at 6:30 instead of was on board in time, but several wanting to make the trip appar- eren't notified. When we hit the a I managed to find a bunk and d horizontal for the next four which was more than that little

Upon arriving we were greeted by the dismal sight of a half dozen barges, a couple of power boats and a tug all piled up on the rocks along the shore by the previous day's storm. Waves were still breaking over the deck of the pier, 18 ft. above water and our skipper decided he wanted none of it and decided to go back to Attu without attempting to land. However, we persuaded him to signal to shore for a boat, and after a couple of hours a small speedboat came out to investigate, bouncing around like a cork. I don't know yet how I got from the tug into the small boat with my baggage and camera, but I guess I was spurred on by the thought of that trip back in the tug. We finally landed without much trouble, scrambling off that bucking boat onto one of the beached barges.

Here again I was quartered in the tent of the resident engineer. It was set on the slope of a sand dune, a few yards from the sea, where the volcanic sand filtered into the tent and into everything in it. Clothing, towels and shaving gear became nerve-wracking gritty. The colonel slept with his gun under his pillow, claiming the beach in front of his tent offered an ideal place for a surprise enemy landing. Armed with pen and pencil, I vowed to fight by his side to the bitter end. I spent the closing days of August on the island, and without offense to those of you in the States who might have been uncomfortably warm about that time, I want to say I wore my fur-lined parka all the time and liked it.

The wind abated somewhat after four days, and I finally got a boat back to Attu where transportation might be available eastward. Sure enough, a couple of B-24 bombers had to make a trip to Adak, and I snagged a ride on one of them, sitting on the floor of the flight deck beneath the forward gun turret. Uncomfortable as it was, it was at least transportation toward the east.

By plane to Amchitka

After another three-day wait in Adak I finally caught a ride in a transport plane to Amchitka, landing at noon. It was a beautiful day, and I got right out on the job with the camera to take advantage of the weather. The good weather held over the next day, and not wanting to be delayed by another storm I hurried through my work and was ready to go back at noon. However, the transportation officer informed me there was nothing doing as far as planes were concerned, as I didn't have enough priority, and the next boat back wouldn't leave for some time. He was no help at all, and his attitude clearly indicated he regarded correspondents about three grades below yardbirds. My engineer friends came to the rescue, and a phone call from the resident engineer to the air force commander resulted in my taking off for Adak in a B-25 bomber within 30 minutes. That was a gorgeous ride over the blue seas and green carpeted islands.

I put in for transportation eastward at Adak, and after a four-day wait finally boarded a transport plane at 4 p.m. bound for a mainland port 6½ flying hours away. Soon after the takeoff we ran into a storm, reported earlier as a "local front." For seven hours we bucked a 50-mile head wind and bounced all over the sky through fog, rain, sleet and snow, most of the time over the cold Bering sea. Finally running out of the storm the pilot landed at Port Heiden on the Alaska Peninsula, a little more than half way to our destination. Never in my life have I seen a sight as welcome as those runway lights. After three hours' sleep we took off in the dark, for the storm had caught up with us and the pilot wanted to get away before it was too late. Soon the clouds gave way to a glorious sunrise, and three hours later my Aleutian trip came to an end, and, I may add, with no regrets.

Right now I am "sweating out" transportation out of here for the first leg of the long trip home. It may be an hour, it may be a week or even longer before I get away, but in the meantime I'm the envy of all my grand engineer friends here, for I am going HOME. As a final word, don't sell the Army Engineers short; they are a splendid, capable lot who have what it takes to win a war.

H.W.R.

. . .

Housing units completed at rate of 1,000 a day

During the last several months government financed housing for war workers has been completed at an average rate of 1,000 units a day, according to the Federal Public Housing Authority.

A total of 236,697 units were completed in the first seven months of this year, twice the number completed in the last seven months of 1942, according to Herbert Emmerich, FPHA Commissioner. A total of 174,306 dwelling units were under construction at the end of July, and contracts were yet to be let for 60,747 more under the present program.

Since July 1, 1940, a total of 470,924 units have been completed, of which 321,380 were family units, 122,137 dormitory units and 27,407 trailer units.

These production records do not include the dwelling units to be made available through Government conversion of existing homes and other structures under the National Housing Agency's home use program. As of the end of August, 26,109 such units were under lease to the government for conversion, some 15,531 of which are completed or under construction.

JOBS OF THE WEEK

LOCOMOTIVE SHOPS, Livingston, Mont.
The Austin Co., Seattle, Wash., will build additions to locomotive shops for the Northern Pacific Railway, B. Blum, chief engineer, St. Paul, Minn. The cost will be about $1,450,000.

DRYDOCKS, etc., Mexico
Mexican Government, Heriberto Jara, Secretary of Navy, Mexico City, will construct drydocks, piers, ways and railroads at San Juan de Ulno shipyard, Vera Cruz, by own forces. The estimated cost is $5,000,000.

HANGAR BUILDING, California
Millsap, Beiger & Sayre, Los Angeles, have been awarded a contract by Douglas Aircraft Co., Santa Monica, Calif., for 242x65 ft. hangar building, part two story, reinforced concrete frame, brick tile walls and steel trusses. The estimated cost $1,250,000. Defense Plant Corp. will finance.

HYDRO ELECTRIC DEVELOPMENT, Puerto Rico
Puerto Rico Water Resources Authority, San Juan, will construct by force account the Caonillas hydro electric project for developing additional water power facilities to produce electricity. Estimated cost is $6,100,000. Application has been made to the War Board for authority to begin.

IMPROVEMENTS, Texas
U. S. Engineers, Fort Sam Houston, awarded contract for improvements, Webb County, to H. B. Zachry Co., San Antonio, at $1,345,000.

HOUSING, Texas
Robert E. McKee, El Paso, Tex., has been awarded a contract for housing, including water supply, sewers, gas and electrical systems, and streets, by the Public Housing Authority, Fort Worth. $929,000. George L. Dahl, Dallas, Tex., is the architect.

GASOLINE REFINERY, California
Richfield Oil Co., Los Angeles, Calif., will construct a gasoline refinery to cost $13,000,000. Lummus Co., New York, N. Y., will design and construct the project.

HOUSING, Texas
P. O'B. Montgomery, Dallas, Tex., was the lowest bidder for housing, including dwellings, site work, utilities, roads, walks and street by the Public Housing Authority, Fort Worth, at $1,157,700. Koch & Fowler, Dallas, are engineers, Grayson Gill, Dallas, Tex., is the architect.

PIPE LINE, Texas
Magnolia Pipe Line Co., Houston, will construct by own forces 394 miles 12 in. steel pipe line for main carrier between Midland and Corsicana to cost $7,000,000.

BUSINESS BUILDING, Mexico City, Mexico
Del Banco Capitalizador del America, Mexico City, awarded contract for the construction of 22 story business building to Antonio Cornejo Ramay, Mexico City. Estimated cost $2,000,000.

BUILDING, Massachusetts
Rugo Construction Co., Boston, Mass., is lowest bidder constructing semi-permanent hospital, comprising thirty-five buildings. U. S. Engineers, Boston, opened bids and low offer was $1,748,500.

APARTMENTS, Cleveland, O.
Loftus & Feldman, Cleveland, O., have been awarded contract by Shaker Square Apartments, Inc., Cleveland, for fifteen apartment buildings. Estimated cost $1,500,000. George Howard Burrows, Cleveland, is architect.

WATERFRONT EXPANSION, Norfolk, Va.
Raymond Concrete Pile Co., New York, N. Y., will construct water front expansion for Bureau of Yards & Docks, Navy Department, Wash., D. C., $1,733,367.

HOUSING, Maryland
John A. Johnson & Sons, Inc., Brooklyn, N. Y., were lowest bidders when Public Housing Authority, Washington, D. C., on housing Md. 18261, 2, 3, and 4. Bid on Schedule 1 was $1,827,000 and on Schedule 2 $1,890,000. Louis Justement, Washington, D. C., is architect.

Note—Additional bidding and contract news on many projects large and small appear in the Construction News section beginning on page 15.

Chicago subway to op

(*Continued from page 11*)

south side where it rejoins the el lines. Under construction for nea years and costing $34,000,000, this tube, low-level subway will do mu relieve the present congestion downtown elevated Loop section o cago.

Most of the main structures o 4.9-mi. route have been complete some time. Final operations include minute construction work on the incline connection structure and tests on the maze of installed mach electrical equipment and other fac necessary for the safe and efficient tion of a modern underground el railway system. Steel cars from the ent elevated lines will be used subway, 455 being available at For the past month crews with transit experience have been traine subway operations.

• • •

Los Angeles sewer rep urged by citizens

A special citizen's committee pointed to confer with Los Angele authorities regarding the failure of ties for sewage disposal has urged th council to appropriate $675,000 fro municipal treasury's reserve fund a pair two main sewage outfalls. The antine of bathing beaches was re in *ENR*, April 15, 1943, p. 520.

Frank Gillelen, sanitary engineer vice-president of the Board of E Works, stated that on the basis o tracts for building reinforced co blankets over the sewer line, the outfall can be repaired and strengt for $425,000. The central outfall, somewhat the worse for wear, was a critical condition, he said, and it be safe to defer for a while the $2 worth of repairs necessary eventual

The board explained to the com that repairs to the outfall lines wou help conditions at the Hyperion sew plant which is inadequate to tre amount of sewage now being di into the city's mains. A taxpayer regarding Hyperion plant was re in *ENR*, Sept. 2, 1943, p. 1.

Maps useful in the planning and cution of flood control, river and h improvements, location of hig power and irrigation projects, dra erosion control, and soil surveys a ing prepared by the Geological S in its program to map the entire U States adequately. According to liam Embry Wrather, director o Survey, less than half of the U States is now adequately mapped.

exans say gas pipeline ill hurt their industry

reats of counter moves to block the truction of the natural gas pipeline Texas to the East proposed in the essee Gas and Transmission Com- application approved last month by Federal Power Commission have voiced by congressional opponents e project.

e 1,228-mile line would extend from us Christi, Tex., to Charleston, W. cost $47,500,000, and transport 200,- 00 cubic feet of gas daily. At its rn terminus it would connect with ing lines serving industrial centers hio, Pennsylvania and other Eastern s. Plans call for completion by the r of 1944-45.

nator O'Daniel of Texas who asked the F.P.C. and the War Production d to rescind their approval of the ct, declared the line would deprive ns of a means of attracting industry.

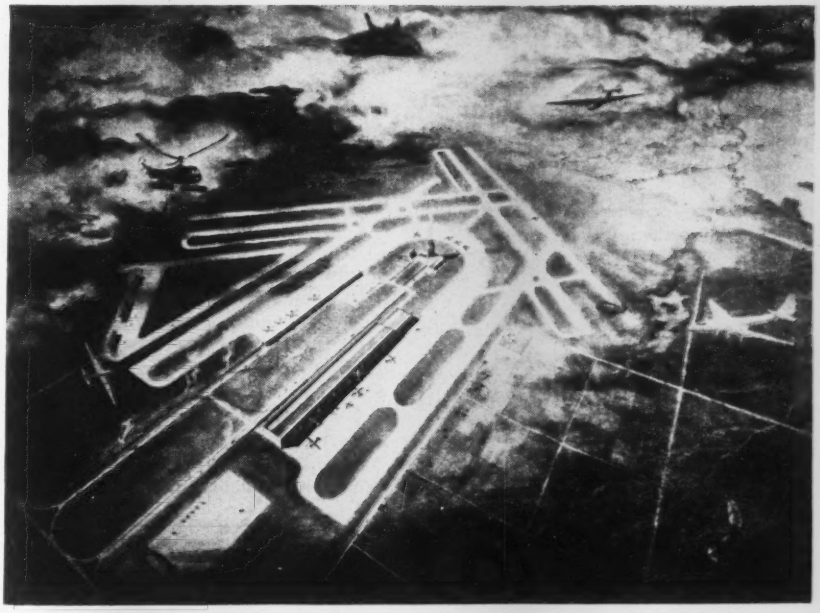
. . .

ivilian building esumption discussed

presentatives of the construction in- y recently conferred with War Pro- on Board officials, and as a result, rding to a report of the Chamber of merce of the United States, there is d for encouragement for those who planning an orderly resumption of an construction at the earliest op- nity. "This major industry does not to reconvert in order to swing into time operations. It can be counted to provide useful employment ptly if construction work, both pri- and public, which has been deferred which will be needed later on, is pre- now for letting of contracts," the ber says.

nstruction work is rapidly decreas- s a result of completion of industrial and military establishments for the program and because of the severe llment of all civilian building. War nds for manpower and transporta- s well as for critical materials make dent that there is no prospect for diate major relaxation of Order which curtails civilian construction. ete suggestions, however, were made PB for changes in the order which improve the current situation, par- ly with respect to essential repairs aintenance, and also needed farm ng.

hope was expressed by industry entatives that when war conditions t an opportunity might be afforded ume civilian construction gradually to regain as soon as possible the ustained the last two years.



Oklahoma City plans vast mid-continent air field

Plans for a $25,000,000 mid-continent air freight and passenger terminal at Oklahoma City, Okla., to provide coordinated postwar facilities for handling highway, rail and air traffic at the geographical center of America's transcontinental airways have been announced by Mayor R. A. Hefner.

The program, which is to be financed entirely by private and local funds, calls for a terminal layout covering six square miles, within nine miles of the city's business center, and a seaplane base on a 2,500-acre lake adjoining.

Preliminary plans by the Austin Company call for the construction of two 11,000 foot runways, 500 feet wide, to serve glider tow-trains and planes carrying up to 400 passengers or 160,000 pounds of freight. Four other runways for commercial planes, a civilian flying field, a helicopter base, a passenger terminal, 100-room hotel, and hangars are also planned.

Railroads and truck lines will enter the terminal on a level below the loading apron for direct transfer of mail and freight between land and airborne transports by gravity conveyors and elevators. Automobiles and buses, as well as interurban transit lines, will have direct access to the passenger terminal through arteries parallelling the rail and truck facilities.

General McCoach heads 9th Service Command

The promotion of Brigadier General David McCoach, Jr., to major general has been confirmed by the Senate, and he has been made the new commanding general of the Ninth Service Command, with headquarters at Ft. Douglas, Utah.

General McCoach was born in Philadelphia, Pa., on Jan. 27, 1887, and following graduation from the United States Military Academy was appointed a second lieutenant, Corps of Engineers.

He was promoted to first lieutenant on Feb. 27, 1913; to captain on July 1, 1916; to major on Aug. 5, 1917; to lieutenant colonel (temporary) on June 17, 1918; and to colonel (temporary) on Aug. 1, 1919. He reverted to his permanent rank of major and was promoted to lieutenant colonel on Oct. 1, 1934; to colonel on March 1, 1939, and to brigadier general (temporary) on Jan. 29, 1942.

General McCoach was assigned first to Mississippi River Improvement work at Memphis, Tenn. On Nov. 15, 1910, he went to the Panama Canal Zone with the Isthmian Canal Commission. He returned in June, 1911, and was assigned to the Pittsburgh, Pa., Engineer District. In Aug. 1911, he was detailed for instruction at the Army Engineer School, Washington, D. C.

General McCoach then served at Fort Leavenworth, Kan., with a battalion of Engineers until Feb. 1913, when he was transferred to Texas City, Tex. He went to the Panama Canal Zone in May, 1915, returning in August, 1917. His World War I service included participation in the Somme offensive and the Battle of Bellicourt.

He was chosen Chief Regional Engineer of the Works Progress Administration on Oct. 14, 1935: In May, 1936, he was appointed district engineer for the Second New York District and for Puerto Rico, with headquarters in New York City, and on July 24, 1936, became chief regional engineer of District II of the Works Progress Administration, comprising five states and the District of Columbia.

OBITUARY

Harold J. M. Baker, 65, principal engineer of the river and harbor flood control division of the U. S. Engineer Department in Seattle, Wash., who had been with the department in the Seattle district for more than 40 years, died Oct. 1.

Since 1919 Mr. Baker had been the principal civilian engineer for the War Department in the Seattle area. He had the longest service record in that district. He directed the extensive improvements made by the War Department on the Columbia River between Kettle Falls and the mouth of the Snake River.

William H. Armstrong, chairman of the Wisconsin State Highway Commission, died Oct. 5 at Madison, Wis. He was former mayor of Racine, Wis.

Orrin L. Brodie, 64, a designing engineer attached to the headquarters department of New York City's Board of Water Supply, died Oct. 5. Mr. Brodie received his engineering degree from Columbia in 1901. During the First World War he worked on nitrate projects at Muscle Shoals, Ala. Later he was attached to the Board of Water Supply, interrupting his work there to aid in the building of the Holland Tunnel under the Hudson River.

Donald H. Rowe, 52, bridge engineer, died Oct. 3 at Portland, Ore. Formerly, he was associated with the Gilpin Construction Company, and later with Lindstrom & Feigenson Co., bridge builders. He was a captain in World War I.

Col. Arthur W. Waldron, 60, Portland, Me., who served with the U. S. Army Engineers in the construction of the Panama Canal, died Sept. 17 at Fort Slocum, N. Y. Colonel Waldron was graduated from West Point. He served with the engineers in World War I and remained in Europe with the army of occupation and later transferred to the Coast Artillery.

Walter W. Huntley, 62, former president of the Elmwood Construction Co., Buffalo, N. Y., died there on Oct. 3.

Elmer Butler, 47, member of the American Rehabilitation Commission in Mexico, died at Agua Calientes on Sept. 23. He had been supervising railroad shop construction work. He was from Memphis, Tenn.

Morris C. Hansen, 60, former construction superintendent of Minneapolis, Minn., died Sept. 29 at St. Petersburg, Fla. Mr. Hansen served during the Philippine insurrection as a corporal in the Third U. S. Infantry.

Manpower lack endangers West Coast war contracts

West coast manpower troubles prompted the Navy recently to issue an order directing that no more contracts for Navy supplies be made west of the Rockies if the products can be obtained in the East.

Purchasing officers estimate that 10 to 15 percent of the Navy's purchases will be affected by the change in procurement.

However, "There are important qualifications to this general principle," it was explained by a spokesman of the 12th naval district at San Francisco. "Navy procurement officers will decide each case of procurement on its own merits, depending on government requirements. Some material will continue to be procured from normal channels in this region."

Two contracts go abegg

Brunswick, Ga. A contract inv approximately $90,000 was to have awarded in Brunsw[illegible] Sept. 22, but were no bidders. This is the first as far as is known in this comm that contractors have failed to s bids on a contract of that size. projected work involved remodelin old City Hospital building.

Victoria, B. C. The public work partment is trying to have a jail b Dawson Creek, but can't find a firm the job. Tenders have been called twice without results. Now a third der has been called. The town's po tion has been increased a hundredf building of the Alaska Highway, of it is the southern terminus.

CONTRACTS AN CAPITAL

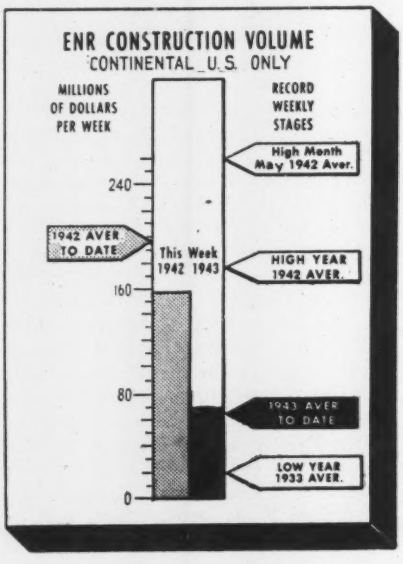
CIVIL ENGINEERING construction in continental U. S. totals $72,855,000 for the week. This volume, not including the construction by military engineers abroad, American contracts outside the country, and shipbuilding, is 93 percent higher than in the preceding week, but 54 percent lower than in the corresponding 1942 week.

Private construction reached the second highest volume recorded this year, and is 454 and 506 percent higher, respectively, than for a week ago and a year ago. Public work tops last week by 32 percent, but is 72 percent below last year.

The current week's volume brings 1943 construction to $2,599,012,000, an average of $63,391,000 for each of the 41 weeks. On the weekly average basis, 1943 volume is 67 percent lower than the $8,133,308,000 for the 42-week period in 1942. Private construction, $365,14 is 25 percent lower than last year. public work, $2,233,869,000, is do percent when adjusted for the diff in the number of weeks.

In the classified construction g all classes of work gain over a week Increases over the 1942 week a bridges, industrial and commercial b ings, and earthwork and drainage.

New capital for construction pur totals $3,589,000 for the week, a made up of $2,769,000 in state municipal bond sales, and $820,0 corporate security issues. New con tion financing for the 41 weeks of $3,041,566,000, is 67 percent belo $9,533,420,000 reported for the 42 1942 period.



CONTRACTS

Continental U. S. Only
(Thousands of dollars)

	Week Ending Oct. 15 1942	Oct. 7 1943	Oc
Federal	$143,836	$29,141	$8
State & Municipal	8,727	3,203	
Total public	$152,563	$32,344	$4
Total private	4,963	5,440	
TOTAL	$157,526	$37,784	$
Cumulative 1943	(41 weeks)		$2,5
1942	(42 weeks)		$8,1

Note: Minimum size projects included Waterworks and waterways projects, $1 other public works, $25,000; industrial b ings, $40,000; other buildings, $150,00

NEW PRODUCTIVE CAPITAL

	1942 42 weeks	Cumulative 19 41
NON FEDERAL	$566,922	$2
Corp. Securities	169,889	1
State & Mun.	184,478	10
R.F.C. loans	129,455	
FPHA loans		
R.E.A. loans		
Fed.-Aid Hwy.	82,700	12
FEDERAL	$8,966,898	$2,75
TOTAL CAPITAL	$9,533,420	$3,04

ENR INDEX NUMBERS

Index Base=100	1913	
Construction Cost	Oct. '43	294.31
Building Cost	Oct. '43	231.29
Volume	Sept. '43	153

CONSTRUCTION REPORTS

Compiled by Business News Department—Engineering News-Record, 330 W. 42nd St., New York
ELSIE EAVES, Manager *SCOTT McLEOD, Statistician*
(Daily service also available—Write for details)

WATER SUPPLY

SED WORK

Groton—Boro., Boro Hall, bids soon ..rs. exten. $18,000. Metcalf & Eddy, ..ter Bldg., Boston, Mass., engrs. CD ENR 9/23.

Coffeyville—Dam for reservoir, $35,- ..k & Veatch, 4706 Broadway, Kansas ..., engrs.

McCaysville—Federal Works Agency, ..St. N.W., Atlanta, water supply and ..s. $35,000.

Hillsboro—City, repair on spillway of ..illsboro, $22,000.

Alexandria—28,050 ft. water line for ..of Horse Shoe Dr. $50,000.

Adrian—City, water treatment plant, ..FWA. Finkbeiner, Pettis & Strout, ..olas Bldg., Toledo. O., engrs. CD 6/15 ..6/17.

Columbia—City, Water & Light Comm., ..er, imprvs. exten. electric distr., cool- ..r, water plant. Approx. $400,000.

Leonard—L. Stallings, mayor, City ..ter well, $15,000. Freese & Nichols, ..Bldg., Fort Worth, engrs.

Arlington—U. S. Eng., 800 Third Ave., ..Zone 4, water tank, Neg. No. 802, ..Co.

Arlington—U. S. Eng., 800 Third Ave., ..Zone 4, water distr. sys., pumphouse, ..798, Skagit Co.

Spokane—Mains in Rowan and ..from Belt to A St.; Sanson, Everett ..en. from Belt to Cochran; Olympia, ..ttleton to A St.; Broad, from Cochran ..s and A St. from Wellesley to Rowan. ..A. Lindsay, City Hall, water supt.

ASKED

Bids Asked October 20

Ypsilanti—Federal Works Agency, ..rium Tower, Detroit, 41600 ft. 2- to ..watermains, fittings valves, meters ..er wells, Mich. 20-321. Ayres, Lewis, ..& May, Wolverine Bldg., Ann Arbor, ..engrs.

IDDERS

Elizabeth City—Federal Works ..601 State Planters Bank Bldg., Rich- ..Va., Oct. 6, addnl. water facilities, ..4, from Coleman & Tranor Co., Box ..ntington W. Va., **$85,540.** CD 8/16— ..23.

Port Neches—Federal Works Agency, ..tric Bldg., Fort Worth, Oct. 6, WW ..erage sys. imprvs., Tex. 41-599, from ..te & Sons, 1107 Girard St., Houston, ..CD 9/24—ENR 9/16.

CTS AWARDED

Ucky—U. S. Eng., 612 Federal Bldg., ..e, water supply, Contr. 15-029-eng-70, ..., to Bass Engr. & Constr. Co., Birm- ..Mich., **$100,000.**

Hibbing—Village, J. O. Rivall, secy. ..wells, to Layne Western Co. of Minne- ..a Snelling Ave., Minneapolis, **$39,156.**

Sippi—U. S. Eng., Grant St. west of ..d St., Mobile, Ala., water distr. and ..collection sys., etc., Grenada Co., to ..organ Constr. Co., Tuscaloosa, Ala., ..$99,000.

Shelby—WW imprv., to J. Sterhan, **$31,483.** Est. $100 000. Bids 10/2.

Lodi—Hackensack Water Co., 624 ..., Weehawken, 1 story, brick pump. ..to F. & C. Haerter, 6507 Dewey Ave., ..York, **$25,000.**

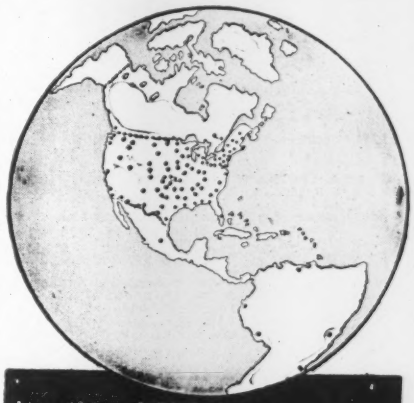
Niagara Falls—Federal Works ..101 Park Ave., New York, Zone 7, ..expansion, incl. 16 and 20 mains, ..arling, Williamsville, **$349,845.** CD ..R 9/16.

nton—Yards & Docks, Navy Dpt., 18 ..Constitution Ave. N.W., Wash., D. C. ..ener plant, Naval Ordnance Plant, ..t. to Brown Constr. Co., 562 Con- ..Portland, Me., **$15,620.**

oma—U. S. Eng., Wright Bldg., Tulsa ..sewer, gas lines, quarters Canadian ..Wise & Bales Constr. Co., Braniff ..klahoma City, **$66,000.**

oma—U. S. Eng., 416 Wright Bldg., ..one 2, furnishing, installing water ..p., Contr. 957-Eng-2038, Oklahoma ..Fairbanks, Morse & Co., 217 S. 8 St., ..Mo., **$20,000.**

—U. S. Eng., Albuquerque, N. M., ..pply mains, El Paso Co., to Hayner ..Las Cruces, N. M., **$15,000.



Location of ENR Correspondents

Symbols and Abbreviations Include:

† Federal Government
★ Project of $500,000 or over
ENR Engineering News-Record
CD Engineering News-Record Construction Daily
A-E-M Architect-Engineer-Management type of contract

Projects—By Size

Construction projects here reported cover the United States and Canada, are of these minimum sizes or larger: water supply, earthwork, waterworks, $15,000; other public works, $25,000; industrial buildings, $40,000; other buildings, $150,000.

Classes of Construction
(Named in order of Listing)

Water Supply	Unclassified
Sewers, Waste Disposal	Latin America
Bridges	Public Buildings
Streets & Roads	Commercial Buildings
Earthwork, Waterways	Industrial Buildings

Stages Reported

PROPOSED: (except Streets & Roads):

BIDS ASKED (new announcements only. For full calendar, see also preceding issues of ENR);

LOW BIDDERS: On jobs below $500,000 value all low bidder news will be the final reports published on the projects involved except where award is not made to the low bidder. In this case, a supplementary contract award report will be published.

CONTRACTS AWARDED: Except awards to low bidders previously reported in low bidder stage.

Dates shown are of issue in which last previous report was published.

Note: To comply with censorship requirements, addresses on some reports are being generalized. Data which would reveal the purpose of the improvements and the size are withheld. The name of contractor and general area are reported.

†**Tex., Dallas**—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., D. C., fire protection sys., NAS, NOY 6814, to D. F. Cleve Constr. Co., 849 Esperson Bldg., Houston, **$88,600.** CD 7/15.

SEWERS, WASTE DISPOSAL

PROPOSED WORK

Calif., Los Angeles—City, Bd. P. Wks., City Hall, bids rejected Sept. 15, sanitary sewer in Riverside Dr. and Foreman Ave., Sewer Dist. Will readvertise. L. Aldrich, City Hall, Los Angeles, engr. CD 9/24—ENR 9/30, under LB.

★**Calif., Los Angeles**—Emergency repairs to North and Central branches of City Outfall Sewer. $627,923. L. Aldrich, City Hall, engr.

†**Colorado**—U. S. Eng., 909 17 St., Denver, incinerator, Denver Co. $20,000.

Conn., Bridgeport—City, P. Wks. Dpt., City Hall, making plans storm and sanitary sewers in Water St., South Ave. to Congress St., Main St. and Railroad Ave. to South Ave., South Ave., Main St. to Water St. Over $25,000. H. L. Rowland, City Hall, engr.

†**La., Gretna**—J. J. Holtgrewe, genl. mgr., Jefferson Parish Water & Sewers, sewer facilities, La. 12-244. $72,152. **FWA.** R. R. Steinwinder, Metairie, engr. CD 5/4—ENR 5/6.

†**Md., Aberdeen**—Federal Works Agency, 601 State Planters Bank Bldg., Richmond 19, Va., rehabilitating sewage treatment plant, etc., Md. 18-195. $24,300.

†**Mo., Richland**—Sewer imprvs., Mo. 23-114. $124,000. **FWA.** Russell & Axon, 4903 Delmar, St. Louis, engrs. CD 8/27—ENR 9/2.

†**N. C., Wrightsville Beach**—Federal Works Agency, 601 State Planters Bank Bldg., Richmond, 19, Va., municipal sewerage sys., small pump. station, sewage treatment plant, approx. 27,000 ft. 6- to 15-in. terra cotta mains, laterals and 400 ft. 14 in. c.i. outfall sewer pipe, Proj. NC 31-262. $194,600.

★**O., Lorain**—Bd. Comrs. Lorain Co., E. B. Comings, clk., Court House, storm sewer in 36 St. ditch 11,000 ft. 48- to 96-in. segment block pipe, shallow ditch $337,090, deep tunnel ditch $581,329. D. Patterson, Court House, co. engr.

†**Tex., Groves**—Jefferson Co. Water Control & Imprvt. Dist. 1, sewerage sys., Tex. 41-597. $80,700. **FWA.** J. B. Converse & Co., Port Arthur, engrs. CD 4/2—ENR 4/8.

Tex., Port Arthur—Mayor, City Hall, sewer collection sys. disposal plant. Applying for FWA funds. Howe & Wise, Stewart Bldg., Houston, engrs.

†**Va., Cradock**—Federal Works Agency, 601 State Planters Bank Bldg., Richmond, Zone 19, altering, repairing sewage pump. station and outfall line, replacing 1,650 ft. 16 in. wood stone outfall sewer with 16 in. c.i. pipe, Va. 44-345. $24,500.

†**W. Va., Huntington** — Federal Works Agency, 601 State Planters Bank Bldg., Richmond, 19, Va., addnl. sewerage facilities, replacing 27,530 sq. ft. pavement in Guyandotte section, W. Va. 46-138. $42,495.

Wis., Blair—Village, 3 mi. 8 and 10 in. vitr. clay or concrete sewer exten. in various streets. S. P. Hall, 335 McKinley Ave., Eau Claire, engr.

Sask., Regina—Municipality, exten. sewer facilities south of College Ave., exten. pipeline now used to serve the R.C.A.F. $25,000. D. A. R. McCannel, City Hall, engr.

BIDS ASKED

Bids Asked October 20

Mich., Lansing—State Hy. Comns., Lansing, storm water pump. station for Detroit Industrial Expressway, D2 of S2-22C-1, near Irving Ave., Dearborn, Wayne Co. Plans deposit $3.

Bids Asked October 22

†**Tex., West Columbia**—W. M. Greenwood, mayor, City Hall, 21,650 lin. ft. collection sewer lines, 2 lift stations, 6,000 ft. force main, etc., Tex. 41-606. Garrett Engineering Co., 1806 Milam St., Houston, engrs. CD 10/5—ENR 10/7.

LOW BIDDERS

†**La., De Ridder**—C. R. Middleton, mayor, Oct. 4, Item 1, sewage disposal plant, La. 16-102, from Forcum-James Co., Louisiana National Bank Bldg., Baton Rouge, **$183,000**; Items 2 and 3, sewage lines, etc., from Joseph J. Duffy Co., 176 W. Adams St., Chicago, Ill., **$52,342.** A. F. Rideout, De Ridder, engr. CD 9/24.

Md., Towson—Comrs. Baltimore Co., Courthouse, Oct. 4, Contr. 7-S, installing approx. 18,450 ft., 10 and 8 in. vitr. sewers, manholes, etc., from P. D'Adamo, 7 W. 25 St., Baltimore, **$77,805.** CD 9/16—ENR 9/23.

N. H., Glencliff—State of New Hampshire, Comptroller's Office, State House, Concord, Oct. 4, sewage treatment plant, State Sanatorium, from G. E. Duteau, P. O. Box 812, Springfield, Mass. **$39,000.** Metcalf & Eddy, 1300 Statler Bldg., Boston, Mass., engrs.

CONTRACTS AWARDED

Calif., Hayward—Ora Loma Sanitary Dist. 21,854 Foothill Blvd., sewer mains in district north of here, to Manuel Smith, 313 Syndicate Bldg., 1440 Broadway, Oakland, **$31,779.**

†**Colorado**—U. S. Eng., 909 17 St., Denver, storm drainage sys., paving, Contr. 05-016-Eng-46, Denver Co., to M. R. Latimer, 1098 Jersey St., Denver, **$30,000.** CD 10/6.

†**Fla., Pensacola**—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., D. C., sewerage pump. plant and force main, Naval Air Station, NOY 6744, to Standard Constr. Co., Columbus, Ga., **$25,000.**

Ind., Anderson—Bd. P. Wks., C. D. Rotruck, chn., City Hall, Belvidere Dist. sewer, pipe, to Anglemeyer Constr. Co., Elwood, **$29,991.** Est. $35,000. H. L. Gwinnup, city engr. Awarded 10/3.

SEWERS, etc. (Contracts Awarded, Cont'd.)

Mich., Detroit—Dpt. P. Wks., City Hall, sewer in Mack Ave., to Waterway Constr. Co., 22240 W. Eight Mile Rd., **$36,984.** G. R. Thompson, city engr.

†New Jersey—U. S. Eng., 120 Wall St., New York, 5, N. Y., sanitary sewers, drainage, Essex Co., to Chas. Simkin Co., Brighton Ave., Perth Amboy, **$50,000.**

†New York—U. S. Eng., 120 Wall St., New York, Zone 5, sanitary sewerage sys., Contr. 30-075-Eng-186, Suffolk Co., to Andrew Weston Co., Inc., Woodmere, **$70,000.**

†Oklahoma—U. S. Eng., 416 Wright Bldg., Tulsa, Zone 2, sewage treatment plant, Contr. 957-Eng-2130, Washoe Co., to Lippert Bros., Oklahoma City, **$30,000.**

Tex., Houston—O. Massey, mayor, sanitary sewers in Polk, Ennis and Page Sts., to Bishop Brick Co., 2302 Jefferson St., approx. **$25,000.**

Tex., Houston—Storm sewers in 4 streets, to Tellepsen Constr. Co., 3900 Clay Ave., Houston, approx. **$25,000.** L. Fugate, City Hall, engr.

†Washington—U. S. Eng., 800 Third Ave., Seattle, sewage treatment plant, pump. stations. Contr. 45-108-Eng-57, King Co., to Woodworth & Co., Inc., and MacDonald Bldg. Co., 1122 E. D St., Tacoma, **$40,000.**

†Washington—U. S. Eng., 800 Third Ave., Seattle, Zone 4, drainage, fencing. Contr. 869-eng-10645, Pacific Co., to F. D. Whittaker, 839 Central Bldg., Seattle, Zone 4, **$100,000.**

†Wash., Seattle—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave, N.W., Wash., D. C., sewage draining plant exten. at Naval Air Station, NOY 6993, to J. C. Boespflug Constr. Co., 807 Securities Bldg., **$108,200.**

†West Virginia—U. S. Eng., Chesapeake & Ohio Bldg., Huntington, incinerator, Contr. 516-Eng-2040, Greenbriar Co., to Arnold E. Smith, Huntington, **$30,000.**

BRIDGES

PROPOSED WORK

Indiana—State Hy. Dpt., Indianapolis, rejected bids Oct. 5, new concrete floor to existing steel truss bridge over Mississinewa River, Grant Co. Will readvertise. CD 9/24—ENR 9/30.

Kan., Kansas City—Chicago, Rock Island & Pacific Ry. Co., F. W. Thompson, ch. engr., La Salle St. Station, Chicago, Ill., Union Pacific R. R., B. H. Prater, ch. engr., 1416 Dodge St., Omaha, Neb., and Kansas City Pub. Service Co., 728 Delaware Ave., Kansas City, Kan., paving 18 St. Viaduct, $40,000.

Mich., Saginaw—Pere Marquette Railroad Co., H. A. Cassil, ch. engr., General Motors Bldg., Detroit, replacing present bridge with steel bascule lift span railroad bridge, rein.-con. piers and abutments over Saginaw River.

B. C., Smithers—Province of B. C., Victoria, bridge across Bulkley River. $50,000. Dpt. P. Wks., Victoria, engrs.

BIDS ASKED

Bids Asked October 19

Iowa—State Hy. Dpt., Ames, rip rapped berm and fence retard at west abutment of present 20x100 ft. high truss with two 20x40 ft. I-beam approaches, on Iowa 64, west of Avoca, at West Nishnabotna River crossing between Sects. 8 and 17, Knox Twp., P-576, Pottawattamie Co., bids Oct. 5 rejected; 3 rein.-con. box culvert extens., incidental grading, etc., Sect. 34, P-443, Jackson Twp., Linn Co.; maintenance bridge repairs on Iowa 5, 8 mi. west of Le Mars, M-3300, Plymouth Co.

West Virginia—State Rd. Comn., Charleston, Muddy Creek Bridge 1681, and approaches, three 40 ft. concrete deck girder spans on either concrete or masonry substructure and grading, draining, asphaltic concrete on macadam surface, Project FAS 189-B(1), Preston Co.

Bids Asked October 20

Michigan—State Hy. Comn., Lansing, 2 grade separation structures (hy. underpasses) at Detroit Terminal R. R., etc. crossing over Detroit Industrial Expressway, SN-U-FX 5 of 82-22-10C-2 and SN-U-FX 6 of 82-22-10C-2, Wayne Co. Plans deposit $3.

Bids Asked October 27

California—State Div. Hy., Sacramento, repairing concrete bridge across Santa Ynez River, Santa Barbara Co. G. T. McCoy, state hy. engr.

LOW BIDDERS

Calif., Los Angeles—Bd. P. Wks., City Hall, Oct. 6, completing Aliso St. Viaduct, from Contracting Engineers Co., 2310 ½ W. Vernon Ave., **$231,630.** Est. $262,000. CD 9/24—ENR 10-1.

†District of Columbia and Maryland—Pub. Roads Admin., 1449 Columbia Pike, Arlington, Va., Oct. 2, constructing Project C-2 military hy. from District of Columbia to Camp Springs, Prince Georges Co., Md. (bridge under Suitland-Silver Hill Rd.), from Guy H. Lewis & Co., McLean, Va., **$77,280.** CD 9/24.

Michigan—State Hy. Dpt., Lansing, Sept. 29, 375 lin. rein.-con. box (steam tunnel) and communications, etc., Wayne Co., and rein.-con. grade separation, Washtenaw Co., from Couse & Westfall, 12740 Lyndon Ave., Detroit, **$51,353** and **$54,013** respectively; grade separation, Wayne Co., from Darin & Armstrong, 2041 Fenkell Ave., Detroit, **$293,411.** CD 9/22.

Michigan—Chas. M. Ziegler, comr. State Hy. Dpt., Lansing, Oct. 6, grade separation (highway underpass), Wayne Co., from W. J. Storen Co., 2411 Fourteenth St., Detroit, **$296,763.** CD 9/29.

N. Y., New York—Dpt. P. Wks., Municipal Bldg., Zone 7, Oct. 8, removing concrete surfaces of roadway pavements of Queensboro Bridge, Williamsburg and Manhattan bridges from Alcan Constr. Corp., 17 E. Prospect Ave., Mt. Vernon, **$37,032.** CD 9/28—ENR 9/30.

CONTRACTS AWARDED

★**Michigan**—State Hy. Dpt., Lansing, grade separation (hy. underpass), SN-U-FX 4 of 82-22-10C-2, to W. J. Meagher & Sons, 24 and Water Sts., Bay City, **$693,399.** Bids 9/22, awarded 9/28. CD 8/29—ENR 9/30, under LB.

Oklahoma—State Hy. Dpt., Oklahoma City, new concrete, steel bridge across the South Canadian River at Norman, State Hy. 9, Cleveland Co., to Amis Constr. Co., Durant, **$134,805,** est. $160,000; 0.208 mi. grading, drainage and concrete pavement and new overflow bridge, U. S. Hy. 69, north of Eufaula, McIntosh Co., to Moran & Buckner, Muskogee, **$87,450,** est. $90,000. Awarded 9/28. B. E. Clark, Capitol Bldg., Oklahoma City, engr.

STREETS AND ROADS

BIDS ASKED

Bids Asked October 18

N. J., Berlin—Berlin Boro, Boro Hall, surface treatment 40,000 sq. yd. Brill, Arlington, Estaugh, Park, Elm, Maple, Cedar, Chestnut, Heights, Atlantic and Moss Aves. L. J. Hoppe, Atco Ave., Atco, engr.

Bids Asked October 19

Iowa—State Hy. Dpt., Ames, maintenance resurfacing 9.0 mi. Iowa 333 from U. S. 59 to Iowa 208, and 5.8 mi. Iowa 333 from College Springs to U. S. 71, M-4270, Fremont Co.; maintenance cover aggregate, Iowa 175, 2½ mi. west of Hubbard, 4 mi. west of Hubbard and east city limits of Radcliffe, M-1271, Hardin Co.; Iowa 21, ½ mi. south of Iowa 8, 3 mi. south of Iowa 8, 8 mi. south of Iowa 8, 12.5 mi. south of Iowa 8, M-1248, Tama Co.; maintenance side ditch excavation on U. S. 75, near James and Wren Junction, M-3299, Plymouth Co.

West Virginia—State Rd. Comn., Charleston, concrete paving 1.037 mi. Riverside Dr., Huntington, Project DANI 7-A(1), Cabell Co.

Bids Asked October 20

Louisiana—State Hy. Dpt., Baton Rouge, 2,000 cu. yd. clam shell or as an alternate, 2,535 cu. yd. reef shell, furnished spot dumped on the Warren Canal Forked Island Rd., State Rt. 26, Ward 6, SP 207-01-04, Vermilion Parish; 4,829 cu. yd. sand clay gravel mined, hauled and spot dumped on certain roads, SP 703-00-48, Franklin Parish; 2,450 cu. yd. washed gravel furnished and del. f.o.b. railroad cars at various sidings, and 4,000 cu. yd. washed gravel furnished and loaded f.o.b., Parish Trucks at Minden, SP 703-00-51, Bossier Parish; 4,455 cu. yd. washed gravel furnished, spot dumped on certain public roads, SP 703-00-52, West Carroll Parish.

Pennsylvania—State Hy. Dpt., Harrisburg, bituminous resurfacing 0.42 mi. existing pavement, Traffic Route 45, Union Co.; 1.3 mi. divided hy., concrete pavement, widening existing pavement project being on extension of Ohio River Blvd., Traffic route, Edgeworth and Leetsdale Boroughs, Allegheny Co.; bituminous surfacing 1.02 mi. Rural Routes 15459 and 15035, spur E. East Pikeland, Charlestown and Schuykill Twps. Chester Co.

Bids Asked about October 25

Tex., Pasadena—D. L. Atkinson, mayor, reconstructing and asphalt and concrete paving 8 St., Tatar to Vines Rd. $200,000. Garrett Engineering Co., 1806 Milam St., Houston, engrs. CD 8/30—ENR 9/2.

Bids Asked November 3

Delaware—State Hy. Dpt., Dover, concrete widening 0.92 mi. Church and Main Sts., Selbyville, Contr 837; three 150 ft. timber groins, Slaughter Beach, Contr. 833, both Sussex Co., adv. ENR 10/14.

Bids Asked

†Connecticut—U. S. Eng., 819 Industrial Trust Bldg., Providence, R. I., road work, No. 44-39, Hartford Co.

Georgia—State Hy. Dpt., Atlanta, cancelled bids to have been opened Oct. 8, resurfacing 3.596 mi. Higgins Mill Rd., incl. widening 1.289 mi. Macon-Camp Wheeler Rd., Bibb Co.

Iowa—State Hy. Comn., Ames, rejected bids Oct. 5, grading P. 614, Harrison Co. CD 9/24—ENR 9/30.

Kansas—State H... Dpt., Cha... jected Sept. 10, im... 0.11... mi. ... bridge repair, Br... ... Neosho Co. —ENR 9/2.

Kansas—State H... Dpt., Cons... jected bids, Sept. ... improv. 4.35... AB, Mitchell Co., R... Keeling, Twp... CD 8/25—ENR 9/2...

†Texas—U. S. En... 231, W. Wa... son, indefinitely po... ned bids to be opened Oct. 25, ... roads, Sec. ... Grayson Co. Will ... dvertise. CD ...

LOW BIDDERS

California—G. T. ... Dpt., Hys., San... Bldg., Los Angeles... Corp. ... improv. ... Ventura Co., for State Hy. Dpt. Sta... Los Angeles, Zone ... from ... to ... Lankershim Blvd., ... North Hollywood ... CD 9/20—ENR 9/2...

California—State ... Dpt., Hys., San... Sept. 29, improv. 1... mi. Contra Co... from Lee J. Immel Bros. ... Berkeley, **$70,716.** CD 9/13—ENR ...

★**Pennsylvania**—State Hy. Dpt. ... Oct. 1, improv. 4.5 mi. Elk Co., ... bull Constr. Co., Lebanon Rd., P... **$84,306***1** mi. Clearfield Co. from ... Constr. Co., 1101 Western Ave., ... **$24,659***4.42** mi. Crawford Co. ... Erie Co., from the Baldwin Bros. ... Union Commercial Bldg., Cleve... **$74,970** and **$89,502** respectively... McKean Co., from Hutchinson ... Springfield Rd. and W. Madison Ave., ... Heights, **$42,694***3.2** mi. Lawrence ... Roy E. Furman, Waynesburg, $85,... mi. Erie Co., from Mayer Bros. ... St., Erie, **$41,991***3.85** mi. Luzerne ... C. F. Goeringer Constr. Co., 35 S. Wi... St., Wilkes Barre, **$342,378.** CD ... 9/23.

†R. I., Middletown-Portsmouth—... Works Agency, 99 Chauncy St., Boston... Oct. 8, repairing various streets, Rt. ... 37152, from Callan Constr. Co., ... Bristol, **$54,730.** Charles H. Maguire ... ciates, 1515 Turnks Head Bldg., Pro... engrs.

CONTRACTS AWARDED

†Alabama—U. S. Eng., Grant St., ... Westwood St., Mobile, roadways, ... ings, Inv. 569-44-167, Calhoun Co., ... Donahoo, 2200 6 Ave. S. Birmingham, **$200,000.** Bids 9/25.

†California—U. S. Eng., 751 S. Figu... Los Angeles, Zone 14, road constr. ... 509-eng-5555, Kern Co., to George Hi... San Bernardino, **$70,000.**

†California—U. S. Eng., 751 S. Figu... Los Angeles, Zone 14, roads, Contr. ... 5591, Santa Barbara Co., to Frederi... Watson Constr. Co., 873-81 Ave. ... **$70,000.**

†Calif., San Pedro—Yards & Docks, ... Dpt., 18 St. and Constitution Ave., ... Wash., D. C., roads, parking area, ... Fuel Annex and Fueling Wharf 1, N... to Warren Southwest, Inc., 2245 E. ... **Los Angeles, $29,869.**

Ind., Indianapolis—Bd. P. Wks., C... Indianapolis, asphaltic concrete ... 1½ mi. Central Ave. from 38 to 42 ... Asphalt Paving Co., 2810 Columbia Ave., **631.** Est. $40,000. Awarded 10/6. A. B. ... city engr.

†Michigan—U. S. Eng., 760 Union C... Life Bldg., Detroit, Zone 31, grading, ... installing drainage, seeding, fertilizing, ... 20-064-Eng-1002, Wayne Co., to Le... Frisinger Co., E. B. Schwaderer & C... Julius Porath & Son Co., Ann Arbor, $...

Mich., Hamtramck (br. Detroit)—... Co. Rd. Comn., 3800 Barlum Tower, ... asphalt resurfacing 1 mi. Conant Rd., ... Flynn & Co., 6432 Cass Ave., Detroit, ...

New Mexico—F. M. Limbaugh, engr., ... Hy. Dpt., Santa Fe, improv. 3.808 mi. DA... Chaves Co., to Allison & Armstrong, ... **$64,611.** Est. $75,000. Bids 10/6, awarded ...

†New York—U. S. Eng., 120 Wall St., ... York, Zone 5, reconstructing roads, ... 30-075-Eng-176, Orange Co., to Peter M... Inc., & Paul Bacco & Son, Inc., Hackett... Greenwich, Conn., **$200,000.**

North Dakota—Comr. State Hy. Dpt., ... marck, improv. 34.447 mi. SAP-2... 1023 & 71-Pt., Richland Co., to August ... Breckenridge, **$57,418.** Bids 10/1.

★**†Ohio**—U. S. Eng., 522 U. S. Post ... Courthouse, Cincinnati, pavement ... standing and drainage, Contr. ... Ottawa Co., to J. A. Ross & Co., ... Kolmar Ave., Chicago, Ill., $700,000.

†Okla., Purcell—Yards & Docks, Navy ... 18 St. and Constitution Ave. N.W., ... D. C., bituminous wearing course on ... **Naval** Aviation Gunnery School, NOY ... to Richards & Millinix, 1401 North ... St., Oklahoma City, **$36,192.**

Pennsylvania—State Hy. Dpt., Harr... improv. 0.86 mi. Philadelphia Co., to ... Constr. Co., 15 Oakland Ave., Harrison, ... **$326,655.** (Correction—cost.) CD 9/2... 9/30, under CA.

Washington—State Hy. Dpt., Olym... improv. 2.74 mi. Clark Co., to Sather ... 12039 Greenwood Ave., Seattle, $152,... improv. 0.84 mi. Grays Harbor Co., to ... Constr. & Engineering Co., Northern ... Tower, Seattle, Zone 1, $119,431... State Hy. 2, Kittitas Co., to Carbon Z...

s etc. (Contracts Awarded, Cont'd.)

s St., Spokane, **$32,899,** Grand total CD 9/21—ENR 9/23.

ington—U. S. Eng., 800 Third Ave., Zone 4, surfacing. Contr. 869-Eng-Zone 4, to Inland Asphalt Co., 10 kane Co., to Inland Asphalt Co., 10 ana Sts., Spokane, **$30,000.**

g—J. G. Smith, supt. Wyoming Hy. heyenne, base course surfacing, base stone chip seal coat and miscel-ork on 5.052 mi. Owl Creek Hamil-Oil Field Access Rd., DA-RM-8(1), es Co., to Big Horn Constr. Co., **$28,599;** grading, base course sur-l treatment by road mix method and k on 2.172 mi. DA-RM-7(1), Park Taggart Constr. Co., Cody, **$46,508.**

Toronto—Dpt. Munitions & Supply, ground clearance and new roads at Depot, to Law Constr. Co., Ltd., 225 Rd., Toronto, about **$25,000.**

—State Dpt. Rds., Quebec City, 8,000 works and graveling on Hy. 54, in e Park, to P. E. DeLisle, Limoilou,

THWORK, WATERWAYS

ED WORK

rt of Columbia—Yards & Docks, t. 18 St. and Constitution Ave. N.W., C., engineering and inspection serv-. S. Howard, 20 E. Lexington Ave., , N. Y., in the Potomac River area,

uncil Bluffs—Pottawattamie Co., c/o wers, aud., levee to Harrison Co. line. ithard Levee to Harrison Co. line. (**Correction**—status) CD 10/5—ENR er BA.

ayton (br. St. Louis)—St. Louis Co. ntrol Com., G. Grueninger, Court layton, St. Louis, new levee along River. $250,000. Seeking govern-

—U. S. Eng., 628 Pittock Blk., SW. & Washington St., Portland, levee ing and bank protection, Clatsop 000.

KED

Bids Asked October 21

ana—U. S. Eng., U. S. Post Office & e, Vicksburg, Miss., approx. 12,000 arthwork at Caddo Lake Dam, No. 6, Caddo Parish. $50,000.

ana—U. S. Eng., U. S. Post Office & e, Vicksburg, Miss., approx. 140,000 rth fill on West bank of Mississippi l. 28-052-44-28. Madison Parish.

Bids Asked October 28

sas—U. S. Eng., U. S. Post Office & e, Vicksburg, Miss., 90,000 cu. yd. k. south bank of Arkansas River, 22-052-44-29; 280,000 cu. yd. earth-south bank of Arkansas River, Sol. -30, both Desha Co.; 334,000 cu. yd. k. south bank of Arkansas River, 2-44-31, Lincoln and Desha Counties.

Lincoln—State Bd. Control, Ralph n., Lincoln, changing, enlarging f tributary of Salt Creek near the itentiary, $163,000.

DDERS

a—Bd. Comrs. Caddo Levee Dist., River Bayou Pierre Levee & Drain-, Court House Bldg., Shreveport, rainage imprvs. Prairie River Canal y. Bayou in Caddo and Red River from E. L. Millen, Bossier City, Dpt. P. Wks., Capitol Bldg., Baton ers. CD 9/16—ENR 9/23.

Whitefish Bay—Milwaukee Co. Park urt House, Sept. 29, shore protection, 3,000 to 6,000 tons riprap and (B) 1,500 cu. yd. concrete bulkhead, from n Vechten & Sons Co., 5013 W. State ukee, **(A) $2.91** per ton; **(B), $11.77**

CTS AWARDED

a—U. S. Eng., U. S. Post Office thouse, Vicksburg, approx. 1,000,000 vee work, south bank of Arkansas ol. 22-052-44-11, Jefferson Co., to rge Constr. Co., Pine Bluff, **$213,580.** ENR 9/9.

Turlock—Turlock Irrigation Dist., installing concrete lining, piping in rvt. districts, to Lloyd W. Terrell, e, **$25,021.** R. V. Meikle, Turlock,

—U. S. Eng., Grant St. west of St., Mobile, Ala., excav., Contr. 409, Bay Co., to C. C. Moore Constr. Panama City, **$60,000.**

—U. S. Eng., 575 Riverside Ave., lle, Zone 2, drainage structures, shoulder gutters, Neg-Jax-44-220, to Boyd & Goforth, 1226 W. For-Jacksonville, Zone 4, approx. Awarded 9/30.

roll—Bd. Supervs. Carroll Co., drain-, to F. Zimmer, Shorewood Hills, Wis., **$46,028.** Bids 9/27. CD 9/14

†Mississippi—U. S. Eng., Post Office and Court House, Vicksburg, 1,125,000 cu. yd. earthwork, West Bank Mississippi River, Sol. 22-052-44-15, Bolivar Co., to Wilbanks & Pierce, Inc., Pere Marquette Bldg., New Orleans, La., **$337,500.** Est. $250,000. Bids 9/24, awarded 10/9. CD 9/30—ENR 10/7 under LB.

†Missouri—U. S. Eng., West Memphis, Ark., approx. 55,000 cu. yd. earthwork, Sol. 40-041-44-23, Mississippi Co., to Moss & Thornton, Marianna, Ark., approx. **$20,000.**

†Missouri—U. S. Eng., 10 E. 17 St., Kansas City, Mo., excav., installation of pipe, overhaul, etc., Contr. 23-028-Eng-102, Phelps Co., to E. J. Fischer, 4234 Westminster St., St. Louis, **$40,000.**

S. C., Lexington—South Carolina Electric & Gas Co., Lexington, imprv. spillway channel, also Saluda Dam, 3 ft., to Savin & Co., 10 Village St., East Hartford. Bids 9/10.

★**†Va., Norfolk**—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., D. C., waterfront expansion at Naval Operation Base, NOY 6103, to Raymond Concrete Pile Co., 40 Cedar St., New York, N. Y., **$1,733,367.**

UNCLASSIFIED

PROPOSED WORK

Ark., Pine Bluff—RUNWAY SURFACING, etc.—Pine Bluff School of Aviation, Municipal Airport, Pine Bluff, 19,000 sq. yd. surfacing or stabilizing runways, 16,000 sq. yd. surfacing or stabilizing on taxi-ways, drainage, grading and seeding. MacCrea-Bair & Lefever, Gazette Bldg., Little Rock, engrs.

Ark., West Helena—RUNWAYS, etc.—Helena Aero Technical School, West Helena, 500 ft. 24 or 36 in. concrete pipe, drainage, tile, cinders and fill, 100 acres seeding, 2 runways, and 94,659 sq. yd. parking apron. MacCrea-Bair & Lefever, Gazette Bldg., Little Rock, engr.

†California—DOCK FINGER PIERS—U. S. Maritime Comn., Financial Center Bldg., Oakland, finger piers at fitting out dock.

†Colorado—NIGHT LIGHTING SYSTEMS—U. S. Eng., 909 17 St., Denver, imprvs., night lighting sys., El Paso, Otero and Pueblo Counties.

†Connecticut—IMPROVEMENTS — Chance-Vought Aircraft Div., United Aircraft Corp., 550 Main St., Stratford, imprvs. Over $150,000. Defense Plant Corp. will finance. Albert Kahn Associated Architects & Engineers, Inc., 345 New Center Bldg., Detroit, Mich., engrs.

†Florida — IMPROVEMENTS — U. S. Eng., 575 Riverside Ave., Jacksonville, Zone 2, imprvs., Walton Co.

Ill., Effingham — IMPROVEMENTS — Effingham Co., imprvs.

★**Ill., Rockford**—AIRPORT—Election Nov. 16 to vote on creation Greater Rockford Airport Authority for construction airport. Over $500,000. C. Henry Bloom, mayor.

Ia., Jefferson — IMPROVEMENTS — City, plans special election to vote on $50,000 bond issue, imprvs. CD 10/6.

†Kan., Wichita—IMPROVEMENTS—C. C. Ellis, city clk., City Hall, imprvs., 400,000 gal. underground concrete reservoir, fire hall, etc., Kan. 14-116. $45,000. **FWA.** P. L. Brockway, city engr. CD 3/17—ENR 3/25.

†Ky., Owensboro—IMPROVEMENTS—City, imprvs. CAA.

Louisiana—OIL WELLS—Amerada Petroleum Corp., Esperson Bldg., Houston, drilling, casing, developing two 11,000 ft. oil well, Lake Chicot area, St. Martin Parish. $100,000.

Louisiana—OIL WELL—Arkansas Fuel Oil Co., M. Esperson Bldg., Houston, Tex., drilling, casing, developing oil well, dredging canal line, earthen storage, etc., Terrebonne Parish, over $25,000; new oil well, Creole Bayou area, Terrebonne Parish, $40,000.

Louisiana—OIL WELL—Phillips Petroleum Co., Esperson Bldg., Houston, drilling, developing oil well, earthen storage, fuel line, etc., Bear Field, Beauregard Parish.

Louisiana—OIL WELL, etc.—Phillips Petroleum Co., Esperson Bldg., Houston, Tex., drilling, developing deep test oil well, earthen storage, fuel line, Bastian Bay area, Plaquemines Parish.

Louisiana—OIL WELL—Phillips Petroleum Co., and Tidewater Associated Oil Co., M. Esperson Bldg., Houston, Tex., drilling, 10 in. casing and developing 12,000 ft. test oil well, fuel lines, etc. Vermilion Parish. $50,000.

Louisiana — OIL WELL PLATFORMS — Union Sulphur Co., Inc., Sulphur, installing, maintaining timber, timber pile platforms, timber pile fenders, appurtenant structures for drilling and exploratory well for oil projection to be designated as State-Kelso et al., Unit 1, Kelso Bayou, Cameron Parish.

★**La., New Orleans**—IMPROVEMENTS—R. S. Maestri, mayor, election Oct. 26 to vote bonds for imprvs., bldgs., etc., $5,000,000. E. W. Jones, Maison Blanche Bldg., J. Hessels, Baronne Bldg. and S. Rosenthal, Balter Bldg., archts.

★**Mo., Robertson** — AIRPORT — Municipal Airport Comn., c/o M. M. Kinsey, chn., City Hall, St. Louis, Zone 3, addnl. facilities, incl. runways, new administration bldg., covering cold water creek, drainage and lighting facilities, at Lambert-St. Louis Municipal Airport, St. Louis Co. Approx. $4,000,000.

Mont., Circle — POWER LINE — McCone County Electric Co-operative Inc., Circle, 396 mi. power line. $328,000.

★**†New Mexico** — CONSTRUCTION — U. S. Eng., Aubuquerque, construction, at Army Air Forces installation, Chaves Co. Over $2,000,000.

†New Mexico — IMPROVEMENTS — U. S. Eng., Aubuquerque, imprvs., Santa Fe Co. Under $25,000.

†Oklahoma—FACILITIES—U. S. Eng., 416 Wright Bldg., Tulsa, Zone 2, addnl. facilities, Sol. 957-neg-44-89, Muskogee Co.

†Oklahoma—IMPROVEMENTS—U. S. Eng., 416 Wright Bldg., Tulsa, Zone 2, imprvs., Sol. 957-neg-44-79, Oklahoma Co. Over $25,000.

†Oklahoma—IMPROVEMENTS—U. S. Eng., 416 Wright Bldg., Tulsa, Zone 2, imprvs., night lighting sys., Sol. 957-neg-44-90, Tulsa Co.

†Oklahoma—IMPROVEMENTS—U. S. Eng., 416 Wright Bldg., Tulsa, Zone 2, imprvs., bldg. facilities, Sol. 957-Neg-44-87, Woodward Co.

†Pennsylvania—FACILITIES—U. S. Eng., 6 and Walnut Sts., Phila., facilities, Phila. Co. Wenner & Chance, 1500 Walnut St., Phila., archts.

†Texas—CONSTRUCTION—U. S. Eng., Fort Sam Houston, addnl. construction, incl. utilities, facilities, etc., Coryell and Bastrop Counties.

†Texas—FENCING—U. S. Eng., Fort Sam Houston, fencing, Taylor Co. $25,000.

†Texas — IMPROVEMENTS — U. S. Eng., Fort Sam Houston, imprvs., bldgs., storage facilities, Taylor Co.

Texas—OIL WELL—Continental Oil Co., Oil & Gas Bldg., Houston, drilling, casing, developing 9,000 ft. oil well, drilling water supply well, building road, etc., Myersville area, De Witt Co. Over $25,000.

Texas—OIL WELL—General Crude Oil Co., Esperson Bldg., Houston, drilling, casing, developing new deep test oil well, earthern storage, etc.

Texas—OIL WELL, etc.—Hiawatha Oil Co., Milam Bldg., San Antonio, drilling, casing, developing new deep test oil well, storage, fuel line, etc., Sweden field area, Webb Co. $25,000.

Texas—OIL WELL, etc.—Humble Oil & Refining Co., Humble Bldg., Houston, drilling, casing, developing new 5,000 ft. test oil well, earthern pits, fuel line, etc., Old Dome area, Harris Co. $40,0000.

Texas—OIL WELL—Lockhart & Davenport, Milam Bldg., San Antonio, drilling, casing, developing deep test oil well earthern storage, fuel line, Cameron Pool area, Cameron Co. Over $25,000.

Texas — OIL WELL — Magnolia Petroleum Co., 528 N. Main St., Ft. Worth, drilling, casing, developing 7,000 ft. oil well, earthen pits, Manziel field area, Wood Co. Over $25,000.

Texas—OIL WELL—Quintana Oil Co., Sterling Bldg., Houston, drilling, casing, developing deep test oil well, Greens Branch area, McMullen Co.

Texas—OIL WELL—Quintana Oil Co., Sterling Bldg., Houston, developing new deep test oil well, fuel line, etc., Washburn field, Webb Co.

Texas—OIL WELL—Tidewater Associated Oil Co., Esperson Bldg., Houston, drilling, developing 7,500 ft. oil well, Wasson Field, Gaines Co. Over $25,000.

Texas—OIL WELL—H. B. Zachery Co. et al., Laredo, developing 10,000 ft. oil well, Burns Station area, De Witt Co. $40,000.

Texas—OIL WELLS—Trapp & Blankenship, Braniff Bldg., Oklahoma City, Okla., drilling, casing, developing 2 new 3,700 ft. test oil wells, Gregg Co. $40,000.

Texas — SHELL FISH HATCHERIES — Texas Game, Fish & Oyster Bureau, Walton State Bldg., Austin, several shell fish hatcheries along Gulf coast area.

Tex., Alfred—OIL WELL—Smith, Mosser & Quinn, et al., Alice, drilling, casing, developing deep test oil well.

Tex., Alice—OIL WELL—Highland Oil Co., drilling, developing new deep oil well test. $25,000.

Tex., Angleton—OIL WELL—Humble Oil & Refining Co., Humble Bldg., Houston, drilling, developing 12,000 ft. oil well. Over $25,000.

Tex., Athens—OIL WELL—Continental Oil Co., Oil & Gas Bldg., Houston, drilling, casing, developing three 5,400 ft. oil wells. $50,000-$100,000.

Tex., Bastrop—OIL WELL, etc.—R. E. Ogden, et al., drilling, developing 3,900 ft. test oil well, earthern storage, etc.

Tex., Beeville—OIL WELL—R. DeLange & Assoc., drilling, developing 4,800 ft. test oil well. $25,000.

Tex., Buna—OIL WELL—Sun Oil Co., Esperson Bldg., Houston, drilling, developing new 8,200 ft. test oil well. $40,000.

UNCLASSIFIED (Proposed Work, Cont'd.)

Tex., Carbondale—OIL WELL—Permac Oil & Gas Co., Bowie, drilling, casing, developing deep test oil well.

Tex., Childress—OIL WELL—L. Murphy & Associates, new 6,500 ft. test oil well. $25,000.

Tex., Chocolate Bayou—OIL WELL—Phillips Petroleum Co., Esperson Bldg., Houston, drilling, casing, developing deep test oil well.

Tex., Cuero—OIL WELL—The Superior Oil Co. of California, Oil & Gas Bldg., Houston, drilling, casing, developing oil well. $25,000.

†Tex., Denton—AIRPORT—City, L. Preston, Mayor, City Hall, airport. $300,000. CAA. CD 9/23—ENR 9/30.

Tex., Encinal—OIL WELL—Adams Oil & Gas Co., Esperson Bldg., Houston, drilling, casing, developing 8,000 ft. oil well. $40,000. CD 9/13—ENR 9/16.

Tex., Encino—OIL WELL—Humble Oil & Refining Co., c/o Humble Bldg., Houston, drilling, developing new 8,000 ft. oil well.

Tex., Falfurrias—OIL WELL, etc.—Sun Oil Co., First National Bank Bldg., Dallas, drilling, casing, developing new deep test oil well, necessary supply lines, earthern storage, etc.

Tex., Fannett (mail Beaumont)—OIL WELL—Gulf Oil Corp., Gulf Bldg., Houston, casing, developing 12,000 ft. test oil well, fuel line, earthen pits, etc. $60,000.

Tex., Gresham—OIL WELL—Phillips Petroleum Co., Esperson Bldg., Houston, drilling, casing, developing 10,000 ft. oil well, earthen storage pits, fuel line, etc. Over $25,000.

Tex., Guerra—OIL WELL—Ralph E. Fair, et al., Milam Bldg., San Antonio, drilling, developing oil well, earthen pits, fuel line, etc., Guerra Field area, Starr Co. $25,000.

Tex., Guerra—OIL WELL—M. L. Massingill & Wm. H. Spice, Alamo Natl. Bldg., San Antonio, drilling, casing, developing oil wells. Over $25,000.

Tex., Hagansport (mail Talco)—OIL WELL—Tidewater Associated Oil Co., Esperson Bldg., Houston, and Seaboard Oil Co. of Delaware, Continental Bldg., Dallas, drilling, casing, developing oil well, earthen storage, fuel line, etc. Over $25,000.

Tex., Houston—OIL WELL, etc.—Cities Service Oil Co., et al, Esperson Bldg., drilling, casing, developing new deep test oil well, earthen pit, fuel line, water well, 10 mi. northwest of here. Over $25,000.

Tex., Iowa Park—OIL WELL—Hanlon Buchanan, Petroleum Bldg., Houston, drilling, casing, developing, 5,000 ft. test oil well, earthern pits, etc. $25,000.

Tex., Kenedy—OIL WELL—Adams Oil & Gas Co., Esperson Bldg., Houston, drilling, casing, developing 9,000 ft. oil well. Over $25,000.

Tex., Lake Creek—OIL WELL, etc.—Progress Petroleum, Inc., Commerce Bldg., Houston, developing new deep test oil well, earthern pits, etc.

Tex., Laredo—OIL WELL—DuPuy Oil Co., Laredo, drilling, developing oil well. $25,000.

Tex., La Vernia—OIL WELL—H. A. Rice, et al, La Vernia, 2,800 ft. oil well.

Tex., Lockney—OIL WELL—Pure Oil Co., Esperson Bldg., Houston, drilling oil well, earthen pits, etc. $25,000.

Tex., Lubbock—OIL WELL—Stanolind Oil & Gas Co., Gulf Bldg., Houston, drilling, casing, developing 5,400 ft. oil well.

Tex., Lyford—OIL WELL—Circle Oil Co., Commerce Bldg., Houston, drilling, developing oil well, earthen storage, etc.

Tex., Mankins—OIL WELL, etc.—A. R. Dillard, et al., Archer City, drilling, casing, developing new 56,000 ft. test oil well, earthen storage, etc.

Tex., Marshall — OIL WELL — Mrs. Mae Belcher, (Oper), 3510 Fairmont St., Dallas, drilling, casing, developing oil well, earthen pits, fuel line, etc.

Tex., Metz (mail Monahan's)—OIL WELL—Forrest Development Co., et al, Odessa, 4,500 ft. oil well, earthen pits, fuel line, etc. $30,000.

Tex., Meyersville—OIL WELL—Arkansas Fuel Oil Co., Esperson Bldg., Houston, developing 9,000 ft. test oil well, fuel lines, etc.

Tex., Mission Valley (mail Victoria)—OIL WELL—Northern Ordnance Co., Victoria, drilling, casing, developing 10,000 ft. oil well, earthen pits, fuel line, etc. $60,000.

Tex., Mooresville (Rur. Sta. Chilton, P.O.)—OIL WELL—LaPage & Brice, Marlin, drilling, casing, developing 1,500 ft. oil well.

Tex., New Castle—OIL WELL—Shell Oil Co., Deere Park, Houston, 5,100 ft. oil well, fuel line.

Tex., Randado—OIL WELL—M. L. Massingill & Wm. H. Spice, Alamo Natl. Bldg., San Antonio, drilling, casing, developing oil well, earthen storage, fuel line, etc. $25,000.

Tex., Raymondville—OIL WELL—Circle Oil Co., Commerce Bldg., Houston, drilling, casing, developing oil well.

Tex., Refugio — OIL WELL, etc. — P. R. Rutherford, et al, Beeville, drilling, casing, developing new 6,500 ft. test oil well, fuel line, etc.

Tex., Rio Grande City—OIL WELL—Continental Oil Co., Oil & Gas Bldg., Houston, drilling, developing new 6,500 ft. oil well, earthen pits, storage, fuel line, etc. Over $25,000.

Tex., Rio Grande City—OIL WELL—Osborne & Fleet, Rio Grande City, drilling, developing new 4,000 ft. oil well. $25,000.

Tex., Rising Star—OIL WELL—H. W. Snowden, Hilburn, et al, Eastland, drilling, casing, developing oil well, earthen pits, fuel line, etc.

Tex., Sample—OIL WELL—South Basin Oil Co., Luling, drilling, casing, developing 5,000 ft. oil well.

Tex., Sugar Land—OIL WELL—Humble Oil & Refining Co., Humble Bldg., Houston, drilling, casing, developing new 9,500 ft. oil well. $50,000.

Tex., Tilden—OIL WELL—E. Jones & Associates, Laredo, drilling, developing oil well. $25,000.

Tex., Truby (mail Hawley)—OIL WELL—Merry Bros. & Perini & Alder, Anson, developing deep test oil well.

†Utah — IMPROVEMENTS — U. S. Eng., 32 Exchange Pl., Salt Lake City, imprvs., bldgs., under $100,000; addnl. parking apron, under $500,000, Tooele Co.

†Utah — IMPROVEMENTS — U. S. Eng., 32 Exchange Pl., Salt Lake City, imprvs., roads, Weber Co. Under $50,000.

†Washington—CONTROL TOWERS—U. S. Eng., 800 3 Ave., Seattle, Zone 4, control towers, Neg. 755, Thurston and Mason Counties.

†Washington—GAS CHAMBER—U. S. Eng., 800 Third Ave., Seattle, Zone 4, gas chamber, Neg. 792 and fence, Neg. No. 790, Spokane Co.

†Washington — IMPROVEMENTS — U. S. Eng., 800 Third Ave., Seattle, Zone 4, imprvs., Neg. No. 803, King Co.

†Washington—WIND INDICATOR AND CONTROL CIRCUIT—U. S. Eng., 300 Third Ave., Seattle, Zone 4, illuminated wind indicator and control circuit, Neg. No. 793, Grant Co.

†Wyoming—IMPROVEMENTS—U. S. Eng., 1709 Jackson St., Omaha, Neb., imprvs., bldg., Natrona Co. Under $25,000.

†Wyoming—NIGHT LIGHTING SYSTEM—U. S. Eng., 909 17 St., Denver, Colo., imprvs., night lighting sys., Natrona Co.

Alta, Edmonton—BOMBING RANGE—Dominion Govt., Ottawa, Ont., bombing range, Twp. 13, range 7. $50,000. Dpt. Transport, Ottawa, Ont., engrs.

B. C., Vancouver—WHARF—McKeen & Wilson Ltd., 7 Heatley Ave., wharfage on Shelter Island in Howe Sound.

B. C., Vancouver—WHARF—Sawarne Lumber Co., Ltd., 1011 Rogers Bldg., wharfage southerly shore of Mitchell Island.

B. C., Vernon—BATHING BEACH, etc.—Municipality, bathing beach and recreation centre, on Kalamalka Lake. $25,000.

Man., Portage La Prairie—SWIMMING POOL, etc.—Portage Lions Activities, Ltd., c/o Geo. E. Brown, Portage La Prairie, swimming pool, public bath, skating and curling rinks.

Ont., Manitowaning—DOCK—Edward Grain Co. Ltd., Manitowaning, dock. $40,000.

BIDS ASKED

Bids Asked October 21

†South Carolina—IMPROVEMENTS—U. S. Eng., Fort Jackson, imprvs., bldg., Lexington Co.

Bids Asked About October 22

★**†Tex., Longview**—AIRPORT—Civil Aeronautics Admin., P. O. Box 1689, Fort Worth, airport imprvs., incl. clearing, grading, drainage sys., conditioning, seeding, fencing, concrete and asphalt paving, etc. $886,150. Plans deposit $20. CD 6/22—ENR 7/1.

Bids Asked October 26

Calif., Morrow Cove — SITE DEVELOPMENT—State Div. Architecture, P. Wks. Bldg., Sacramento, site development at Calif. Maritime Academy consisting mainly of earth excav. and filling in part of Morrow Cove, removing part existing timber wharf and constructing concrete manholes and concrete pipe drain. Plans deposit $25. Anson Boyd, P. Wks. Bldg., Sacramento, state archt.

Bids Asked

†Massachusetts—FIRE PROTECTION—U. S. Eng., 131 St. James Ave., Boston (selected bidders), fire protection, No. 19-023-44-Neg-83, Middlesex Co.

†New Jersey—GRADING, etc.—U. S. Eng., 120 Wall St., New York, 5, N. Y., grading, paving and track construction, Essex Co. $100,000.

LOW BIDDERS

†Arizona—ROAD FENCING, etc.—U. S. Eng., 751 S. Figueroa St., Los Angeles, 14, Calif., Sept. 29, road fencing, guard towers, No. 272F, Maricopa Co., from H. L. Royden, P. O. Box 3703, Phoenix, **$90,000-$100,000.**

★**†California** — SHIPYARD BLDG. — H. J. Kaiser Co., c/o Engineering Dpt., Richmond Shipyard 4, Richmond, Oct. 4, 500x500 ft. steel frame assembly bldg., from Carl N. Swenson Co., 355 Stockton Ave., San Jose. Federally financed. L. H. Nishkian, 155 Sansome St., San Francisco, engr.

†Colorado—IMPROVEMENTS—U. S. Eng., 909 17 St., Denver, imprvs., concrete road surfacing, [illegible] Co., from Constr. Co., P. O. Box 516, Pueblo, CD 9/27.

†New Mexico — IMPROVEMENTS — U. S. Eng., Albuquerque, imprvs., field training, Schedule 2, Proj. 544-595, Lea Co., from Plains Constr. Co., Pampa, Tex.

†Wyo., Kemmerer—LANDING FIELD IMPROVEMENTS—Civil Aeronautics Admin., E. 12 St., Kansas City, Mo., clearing, grading, fencing, misc., intermediate field, Prop. 544-P-[illegible], from Big Horn Co., Sheridan, $27,903. CD 7/1—ENR

CONTRACTS AWARDED

†Alabama—CONSTRUCTION—U. S. Grant St. west of Westwood St., Mobile, construction, Inv. 569-44-110, Madison to Chamber Lumber Co., Athens. Bids 9/21.

†Alabama—IMPROVEMENTS—U. S. Grant St. west of Westwood St., Mobile, imprvs., bldg., utilities, paving, Inv. 569-Mobile Co., to Stanley W. Newman Co., chants National Bank Bldg., Mobile. Bids 9/14.

†Alabama—IMPROVEMENTS—U. S. Grant St. west of Westwood St., Mobile, imprvs., addnl. parking area, Inv. 569-Mobile Co., to Foster & Creighton Co., can National Bank Bldg., Nashville, **$40,000.** Bids 9/22.

†Alabama—EXPLOSIVE CLASSIFICATION RAILROAD YARD—U. S. Eng., Grant St. west of Westwood St., Mobile, explosive classification railroad yard, Inv. 569-44-115, Co., to A. A. Smith & J. B. Gibson Co., ford. Est. **$75,000.** Bids 9/26.

†Alabama—COAL STORAGE YARD SPUR TRACK—U. S. Eng., Grant St. west of Westwood St., Mobile, coal storage yard, spur track, incl. grading, drainage, Inv. 569-44-109, Tuscaloosa Co., to C. G. Co., 2212 20 Ave. S., Birmingham. Bids 9/22.

†Arkansas—FENCE, etc.—U. S. Bway., Little Rock, fence, concrete, earthwork, and misc. drainage, Contr. 777-Eng-2231, Sebastian Co., to Constr. Co., Monette, Mo., **$30,000.**

†California—CONSTRUCTION—U. S. 74 New Montgomery St., San Francisco, construction, Contr. 04-203, Eng-161, Co., to Pacific Builders, Salinas, **$**

†California—FACILITIES, etc.—U. S. 751 S. Figueroa St., Los Angeles, addnl. facilities and electrical distr., Contr. 509-Eng-5592, Riverside Co., A. Klarquist, 618 S. Western Ave., Los Angeles, **$60,000.**

★**†California** — IMPROVEMENTS — Aircraft Co., 3000 Ocean Park Blvd., Monica, imprvs., to Millsap, Berger & 437 S. Hill St., Los Angeles, approx. $1, Defense Plant Corp. will finance. CD ENR 9/30.

†Calif., Pt. Molate (Richmond)—GAS LOADING FACILITIES—Yards & Navy Dpt., 18 St. and Constitution Ave., Wash., D. C., gasoline loading facilities, Fuel Depot, NOY 7167, to A. Brin, McAllister St., San Francisco, **$86,270.**

†Calif., San Diego—STEAM FACILITIES—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., D. C., steam ties exten., Destroyer Base, NOY 6 Oilfield Constr. Co., 2650 Cherry Ave., Beach, **$240,760.**

†Florida—FACILITIES—U. S. Eng., St. west of Westwood St., Mobile, Ala., ties, Contr. 569-Eng-5419, Jackson, Henderson, Black & Greene Mill Co., Troy, Ala., **$30,000.**

†Florida — SHOOTING-IN-BUTTS — Eng., 575 Riverside Ave., Jacksonville, 2, shooting-in-butts, Neg-Jax-44125, Co., to Murphy Constr. Co., West Palm, approx. **$30,000.** Awarded 10/1.

†Florida — SHOOTING-IN-BUTTS — Eng., 575 Riverside Ave., Jacksonville, shooting-in-butts, Neg-Jax-44-216, Co., to J. L. Ewell, Lakeland, approx. Awarded 10/1.

†Fla., Dinner Key—GASOLINE SYS. Yards & Docks, Navy Dpt., 18 St. and tution Ave. N.W., Wash., D. C., gasoline age and distr. sys., Naval Air Facility, 6526, to H. G. Gupree, Box 5456, Jack **$73,295.**

†Fla., Jacksonville—FIXED GUN F RANGES—Yards & Docks, Navy Dpt., and Constitution Ave. N.W., Wash., fixed gun firing ranges, Cecil & Lee NOY 7199, to R. H. Wright & Son, Co Ga., **$24,899.**

†Fla., Jacksonville—GASOLINE DIST TION SYSTEM—Yards & Docks, Navy 18 St. and Constitution Ave. N.W., D. C., exten. gasoline distr. sys., Cecil Fields, NOY 7335, to Aqua S Inc., 385 Gerard Ave., New York, **$71,151.**

★**†Fla., Titusville-Cocoa**—AIRPORT ING, etc.—Civil Aeronautics Admi nicipal Airport, Atlanta, Ga., airport runways, to Marion Constr. Co., **$731,953.** CD 8/25—ENR 9/2, under

†Georgia—FACILITIES—U. S. Eng. Office Bldg., Savannah, facilities, Con

ASSIFIED (Contracts Awarded, Cont'd.)

...t Fulton Co., to A. Q. Smith & Co., ... $100,000.

...rgia — STEAM GENERATING AND ...TRIBUTION SYSTEM, etc.—U. S. Eng., ...hse Bldg., Savannah, steam generating ...ner sys., heating and steam supply ...Contr. 819-Eng-1669, Houston Co., to ...Lehotay & Co., Columbus, $60,000.

...rgia—TARGET RANGE, etc.—U. S. ... Post Office Bldg., Savannah, target ... and firing points, Contr. 819-eng-1667, ...y Co., to Espy Paving & Constr. Co., ... Bay St., Savannah, $60,000.

...ois—RAILROAD ROADBED, etc.—New ...k Central R. R. Co., P. W. Keifer, ch. ...466 Lexington Ave., New York, N. Y., ... roadbed, widening, filling, repairing ... replacing rails and ties in Shelby Co., ...rces. To exceed $1,000,000.

... Crane—ELECTRICAL SERVICE and ...CTIVE LIGHTING—Yards & Docks, ...Dpt., 18 St. and Constitution Ave. N.W., ... D. C., electrical service, protective ...g N.A.D., NOY 7595, to Maxon Constr. ...11 N. Ludlow Pl., Dayton, O., $35,230.

...a—IMPROVEMENTS—U. S. Eng., 1709 ...n St., Omaha, Neb., imprvs., well, ...ury Co., to Layne-Western Co., 807 ...Herald Bldg., Omaha, Neb., under ...

... Ottumwa — ATHLETIC FIELD — Bd. ... Ottumwa, athletic field imprvs., excavation, retaining wall, storm sewers, drainage, ...g track, sodding, to Kramme & Jensen, ...out Bldg., Des Moines, $30,467. Bids ... Stanley Eng. Co., Muscatine, engrs.

...sas—FACILITIES—U. S. Eng., 10 E. ... Kansas City, Mo., addnl. facilities, ...23-028-eng-99, Wyandotte Co., to S. ...Constr. Co., 1114 Bway., Kansas City, ...$50,000.

...sas—GRADING, TRACK LAYING, etc. ...S Eng., 10 E. 17 St., Kansas City, Mo., ...g track laying, platform constr., un... docks, etc., Contr. 23-028-Eng-106, ...Co., to List & Weatherly Constr. Co., ...ailway Exchange Bldg., Kansas City, ...$90,000.

...siana—RANGES, etc.—U. S. Eng., 25 ...d Avenue F, Galveston, Tex., ranges, ...Contr. 359-eng-5726, Vernon Parish, to ... Aldrich & Co., Kalwrah University Gar... Baton Rouge, $40,000.

..., Dorchester — BRIDGE CRANE — ... Lawley & Son Corp., 141 Walnut St., ...frame for bridge crane, Walnut St., to ... Marr & Son Co., Inc., 384 Dorchester ...Boston, and New England Foundation ...76 Boylston St., Boston. Est. $25,000.

...nnesota—FACILITIES—U. S. Eng., 1709 ...n St., Omaha, Neb., addnl. facilities, ...25-066-eng-111, Ramsey Co., to Mid... Contg. Co., 854 Builders Exchange, ...apolis. $50,000. (Correction—location of ...) CD 10/4—ENR 10/7, under Ne...

...issippi—IMPROVEMENTS—U. S. Eng., ... St. west of Westwood St., Mobile, Ala., ... bldg., facilities, Inv. 569-44-104, Hinds ... W. E. Rubush, Meridian, under $50,000. ...9/29, awarded 9/30.

..., St. Louis—ADMINISTRATION WING ...ANGAR—Yards & Docks, Navy Dpt., ... and Constitution Ave. N.W., Wash., ...administration wing and hangar addn., ...NOY 7295, to Dickie Constr. Co., Loud... Bldg., $75,543. CD 7/21—ENR 7/29.

...raska—IMPROVEMENTS—U. S. Eng., ...Jackson St., Omaha, imprvs., construc...ork, Scotts Bluff Co., to Korshoj-Beck... Constr. Co., Blair, under $50,000.

...w Jersey—FACILITIES—U. S. Eng., 120 ...St., New York Zone 5, facilities, Contr. ...-Eng-188, Middlesex Co., to Andrew ...sen & Son, Inc., 1140 E. Jersey St., ...eth. $60,000.

...w Jersey—FIRE PROTECTION FACIL... U. S. Eng., 120 Wall St., New York, 5, ...fire protection facilities, Hudson Co., to ...Vachris, 827 Remsen Ave., Brooklyn, ...$60,000. Bids 9/27.

..., Jersey City—PIER—Penn. R. R. Co., ...Gressitt, ch. engr., 26 Exchange Pl., ...to Lin-Cran-Rose Sheet Metal Works, ...ier Ave., Linden, $40,000.

..., Jersey City—PIER SPRINKLER ...M—Penn. R. R. Co., J. L. Gressitt, ch. ...26 Exchange Pl., Jersey City, installing ...matic sprinkler sys. on pier, to Blaw... Constr. Co., 1525 Penn Ave., Pittsburgh, ...$67,500.

...w Mexico—FACILITIES—U. S. Eng., ...querque, addnl. facilities, Contr. 39-005-... Otero Co., to Parks Constr. Co., Con... Bldg., Dallas, Tex., $80,000.

...w Mexico — IMPROVEMENTS — U. S. ... Albuquerque, imprvs., Schedule 1, Pro... Lea Co., to Bell & Braden, Herring ... Amarillo, Tex., $127,190.

...rth Carolina—IMPROVEMENTS—U. S. ...ost Customhouse, Wilmington, imprvs., ...912-44-36, Richmond Co., to Reinecke... ...y, Inc., Fayetteville, under $50,000. ...9/15.

..., Cherry Point—SWIMMING POOLS ...s & Docks, Navy Dpt., 18 St. and Con... Ave. N.W., Wash., D. C., swimming ... at Marine Corps Air Station, NOY ... to T. A. Loving & Co., Goldsboro, ...$90,000.

★†Ohio—RUNWAY AND TAXIWAY—U. S. Eng., 522 U. S. Post Office & Courthouse, Cincinnatti, addnl. runway and taxiway, Contr. 33-015-Eng-153, Franklin Co., to W. H. Ringwald & Sons Co., Chillicothe, $600,000.

†Ohio — STEAM SERVICE — U. S. Eng., Wright Field, steam service, Contr. 33-046-Eng-31, Greene Co., to Bass Engr. & Constr. Co., Birmingham, Mich., $30,000.

†Ohio—WATCH REPORTING and FIRE ALARM SYSTEM—U. S. Eng., Chesapeake & Ohio Bldg., Huntington, W. Va., watch reporting and fire alarm sys., Contr. 516-eng-2039, Richland Co., to Continental Electric Constr. Co., 2924 N. Lincoln St., Chicago, Ill., $30,000.

†Oklahoma—IMPROVEMENTS—U. S. Eng., 231 W. Main St., Denison, Tex., imprvs., Sol. 41-242-44-73, Carter Co., to L. H. Lacy Co., 3009 N. Henderson St., Dallas, $288,000.

†Oklahoma—TAXIWAY—U. S. Eng., 416 Wright Bldg., Tulsa, Zone 2, taxiway, Contr. 957-Eng-2125, Oklahoma Co., to Moran & Buckner, Muskogee, $70,000.

†Oklahoma—UTILITIES—U. S. Eng., 231 W. Main St., Denison, Tex., utilities, Contr. 41-242-Eng-13, Comanche Co., to Glade Constr. Co., 413 E. 4 St., Fort Worth, Tex., $40,000.

†Ore., Astoria—RUNWAYS—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., D. C., widening runways, Clatsop Co. Airport, NOY 6856, to Sound Constr. & Engr. Co., 1012 Northern Life Tower, Seattle, Wash., $277,777. CD 7/20.

†Tenn., Millington — AUXILIARY FIELD RESURFACING—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., D. C., resurfacing auxiliary field, NAS, NOY 7702, to Dunn Constr. Co., Inc., and Polk Smart Paving Co., Millington, $312,585.

†Texas—GASOLINE TRANSFER LINE, etc. —U. S. Eng., Fort Sam Houston, gasoline transfer line, exten., etc., Bexar Co., to Aqua System, Inc., 383 Gerard Ave., New York, N. Y., $32,000.

†Texas—IMPROVEMENTS—U. S. Eng., Albuquerque, N. M., imprvs., 312,000 yd. sealcoating, Lubbock Co., to T. S. Southerland, Lubbock, $70,000.

†Texas—IMPROVEMENTS—U. S. Eng., 416 Wright Bldg., Tulsa, 2, Okla., imprvs., access driveway, Sol. 957-Neg-44-67, Gray Co., to Plains Constr. Co., Pampa. $30,000. CD 9/16 —ENR 9/23.

†Texas — IMPROVEMENTS — U. S. Eng., Fort Sam Houston, imprvs., grading, outdoor bathing facilities, sports field, roads, etc., Kerr Co., to J. G. Rosson, Kerrville, $32,000.

★†Texas — IMPROVEMENTS — U. S. Eng., Fort Sam Houston, imprvs., incl. excav., embankment, concrete and asphalt paving, fencing, drainage sys., etc., Webb Co., to H. B. Zachry Co., P.O. Box 596, San Antonio, $1,345,000. CD 10/6.

†Texas—IMPROVEMENTS—U. S. Eng., 25 St. and Avenue F, Galveston, imprvs., Sol. 359-44-C41, Matagorda Co., to Baugh & Scott, 1107 Frost Bldg., San Antonio, approx. $30,000. CD 9/28—ENR 9/30.

★Texas — PIPELINE CARRIER — Magnolia Pipe Line Co., M. Esperson Bldg., Houston, 394 mi. 12 in. pipeline main carrier between Midland and Corsicana. Owner builds. $7,000,000. CD 9/14—ENR 9/16.

Texas—SODDING—U. S. Eng., 231 W. Main St., Denison, sodding, Contr. 41-242-Eng-1, Cooke Co., to McKinney Constr. Co., Marshall, $60,000.

†Washington — IMPROVEMENTS — U. S. Eng., 800 Third Ave., Seattle, Zone 4, imprvs., King Co., to A. D. Ford & Son, 417 Clay St., Portland, Ore., $30,000.

★Puerto Rico—HYDRO-ELECTRIC PROJECT—Puerto Rico Water Resources Authority, constructing Caonillas Hydro-Electric Project, for developing addnl. water power facilities to produce electricity by force account. $6,100,000. CD 8/27—ENR 9/2.

B. C., Abbotsford—IMPROVEMENTS—Dpt. Transport, Ottawa, Ont., imprvs., clearing, stumping, grubbing, grading, fencing, hard-surfacing taxistrip and runway, to King Paving Co., Ltd., Oakville, Ont., about $175,000.

Man., Winnipeg—LAKE, etc.—Ducks Unlimited, 505 Commercial Bldg., restoration 100,000 acre lake and porthole area west of here, day labor. Est. $25,000.

Ont., Trenton — IMPROVEMENTS — Dpt. Natl. Defense (Air), Ottawa, imprvs., resurfacing at No. 6 R.D., to H. J. McFarland Constr. Co., Ltd., Elizabeth St., Picton, about $75,000.

LATIN AMERICA

Mexico — Federal Government, Heriberto Jara, secy. of Navy, Govt. Palace, Mexico City, will construct drydocks, piers, ways, railroads for shipyard in **San Juan de Ulno**, Vera Cruz, $5,000,000. Owner builds. CD 6/10—ENR 10/17.

Mexico—Mexican Government, Avila Camacho, pres., Mexico City, plans constructing Danxhu Dam for irrigation purposes. $200,000.

Mexico—Ministry of National Economy, National Palace, Mexico City, plans electrification of rural and urban centers, incl. power plants, diesel equipment, power dams and lines. $58,500,000.

Mexico—Owners, c/o Mexican Government, Mexico City, plan tractor manufacturing plant. Government allotted $1,000,000 for project.

Mexico—State of Campeche, Government Palace, Campeche, plans central school inn **Cuidad del Carmen**; $200,000; beachwall on waterfront $200,000; general hospital $175,000, both in **Campeche.**

Mexico—State of Chihuahua, Municipal Hall, Chihuahua plans new water sys., repairing old ones. $1,000,000.

Mexico—State of Jalisco, Construction Dpt., Guadalajara, bids about November 6, 2 school centers, and playgrounds, at **Autlan.** $300,000.

Mexico—State of Tamaulipas, Cuidad Victoria, plans cement dam at **Nuevo Morelos** for irrigation. $100,000.

Mexico, Mexico City—Del Banco Capitalizador del America, Roberto Ezkinazi, pres., Madero 65, Mexico City, awarded contract constructing 22 story business building, Juarez and Luis Moya Sts., to Antonio Cornejo Romay, Paseo de Reforma 1425, Mexico City, DF. Est. $2,000,000. Awarded 10/5.

Venezuela—Office Ministerio de Obras Publicas Direccion de Vias de Comunicacion, Caracas, receives bids Decemher 6, constructing 7 rein.-con. continuous girder type highway bridges, incl. approaches, culverts, dikes, etc. along Carretera Occidental between Ospino and Barinas, States of Portuguesa and Barinas. Parsons, Brinckerhoff, Hogan & Macdonald, 142 Maiden Lane, New York, N. Y., and Calle Sur 17 No. 27, Caracas; adv. ENR 10/14.

PUBLIC BUILDINGS

PROPOSED WORK

†Ala., Gadsden—Federal Works Agency, 20 Fifth St., N.W., Atlanta, Ga. recreation bldg. $75,000.

†Ala., Muscle Shoals—Pub. Housing Auth., NHA, Georgia Savings Bank Bldg., Peachtree and Broad Sts., Atlanta, Ga., 100 family dwelling units, Ala. 1219.

★†Ala., Sylacauga—Federal Works Agency, Candler Bldg., Atlanta, Ga., 3 story, bsmnt., brick hospital bldg. $600,000.

†California—Pub. Housing Auth., 785 Market St., San Francisco, plans by A. Wilson, Architects Bldg., and P. R. Williams, 1271 W. 35 St., Los Angeles, family dwelling units, Calif. 4766 and Calif. 4769.

†California—Pub. Housing Auth., NHA, 785 Market St., San Francisco, family trailer units, Calif. 4778.

†California—U. S. Eng., 74 New Montgomery St., San Francisco, storage facilities, Job No. 964-A, San Francisco Co.

†Calif., Berkeley—Home Owners' Loan Corp., 1440 Broadway, Oakland, Zone 12, plans by C. A. Deichman, 1026 Market St., San Francisco, converting theatre bldg., at 1913 San Pablo Ave., into 8 living units, Case No. W4B-568. $16,000.

†Calif., Berkeley—Home Owners' Loan Corp., 1440 Broadway, Oakland, Zone 12, plans by H. T. Johnson, 4716 Reinhardt Dr., Oakland, converting residence at 2909 Regent St. into 4 living units, Case No. W4B-290. $8,000.

†Calif., Hayward—Home Owners' Loan Corp., 1440 Broadway, Oakland, Zone 12, plans by W. H. Hubbert, 580 Market St., San Francisco, converting residence at 824 Castro St., into 18 living units, Case No. W4B-1023. $35,000.

†Calif., Hunters Point—Federal Works Agency, 5223 Fulton St., Berkeley, plans by D. A. Riedy, City Hall, San Francisco, Ridgepoint Schools 1, 2, and 3, and Candlestick Point School 4, Calif. 4-548. $231,300.

†Calif., Los Angeles—Pub. Housing Auth., NHA, 785 Market St., San Francisco, 1,000 family dwelling units, Calif., 4773 and 50 trailers, (stop-gap type), Calif. 4774.

Calif., Martinez—Contra Costa Co., plans by E. Geoffrey Bangs, 605 Market St., San Francisco, 3 story, rein.-con. jail bldg. $175,000.

†Calif., Oakland—Home Owners' Loan Corp., 1440 Broadway, Zone 12, plans by L. S. Moslas, 255 California St., San Francisco, converting bldg. at 591-37 St. into living units, Case No. W4B-1078. Over $5,000.

†Calif., Oakland—Home Owners' Loan Corp., 1440 Broadway, Zone 12, plans by L. S. Moslas, 255 California St., San Francisco, converting bldg. at 1006 6 Ave. into living units, Case No. W4B-1066. Over $5,000.

†Calif., Oakland—Home Owners' Loan Corp., 1440 Broadway, Zone 12, plans by L. S. Moslas, 255 California St., San Francisco, converting property at 925 36 St. into addnl. living units, Case No. W4B-1009. Over $5,000.

†Calif., Oakland—Home Owners' Loan Corp., 1440 Broadway, Zone 12, plans by M. J. Marquis, 616 Santa Clara Ave., Alameda, converting carpenters' hall at 1201 Fruitvale Ave. into approx. 14 living units, Case No. W4B-982. $25,000.

†Calif., Richmond—Home Owners' Loan Corp., 1440 Broadway, Oakland, Zone 12, plans by M. J. Marquis, 616 Santa Clara Ave., Alameda, converting hotel at 18 Washington Ave. into 12 addnl. living units, Case No. W4B-1088. $22,000.

PUBLIC BLDGS. (Proposed Work. Cont'd.)

†**Calif., San Jose**—Home Owners' Loan Corp., Pacific Bldg., San Francisco, 50 family unit conversion program.

†**Calif., San Mateo**—Home Owners' Loan Corp., 821 Market St., San Francisco, plans by O. R. Thayer, 125 Cabrillo Ave., Burlingame, converting residence at San Mateo Dr. into living units, Case No. W4C-125. Over $5,000.

†**Colorado**—U. S. Eng., 909 17 St., Denver, recreation bldg., Denver Co. $50,000.

†**Conn., Bristol**—Pub. Housing Auth., NHA, 24 School St., Boston, Mass., plans by H. A. Hayden & Raymond J. Percivale, 12 Haynes St., Hartford, 50 family dwelling units, Conn. 6207.

Conn., Stratford—Town Manager, Town Hall, plans by Frederick H. Beckwith, 115 Wall St., Bridgeport, school addn.

†**District of Columbia**—Pub. Housing Auth., NHA, Temporary Bldg. 2, 19 and D Sts. N.W., Wash., 220 family dwelling units, DC 1-13, and 220 family dwelling units, DC 1-14.

†**Fla., Orlando**—Pub. Housing Auth., NHA, Georgia Savings Bank Bldg., Peachtree and Broad Sts., Atlanta, Ga., 160 family dwelling units, Fla. 8230.

†**Fla., Panama City**—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., D. C., engineering and architectural services by Smith & Gillespie, 574 Rosselle St., Jacksonville for work in connection with NOY 5867 and 5868, Sect. Base, NOY 7818.

†**Idaho, Bayview**—Pub. Housing Auth., NHA, Skinner Bldg., Fifth Ave., Union St., Seattle, Wash., 60 family dwelling units, Idaho 10110.

†**Illinois**—Pub. Housing Auth., NHA, 201 N. Wells St., Chicago, family dwelling units.

†**Ill., Amboy**—Pub. Housing Auth., NHA, 201 N. Wells St., Chicago, plans by J. Fletcher Lankton & J. H. Ziegele, 1805 Knoxville Ave., Peoria, 50 trailers, Ill. 11205. CD 9/21—ENR 9/23.

†**Ill., Canton**—Federal Works Agency, 20 N. Wacker Dr., Chicago, recreation center. $27,300.

†**Ill., East Alton**—Pub. Housing Auth., NHA, 201 N. Wells St., Chicago, Ill., plans by J. Loebl, 333 N. Michigan Ave., Chicago, administration bldg., Ill. 11081.

†**Ind., Evansville**—Pub. Housing Auth., NHA, 201 N. Wells St., Chicago, Ill., plans by E. C. Berendes, 121 Norwest Fourth St., and A. M. Strauss, 415 Cal-Wayne Bldg., Fort Wayne, 50 trailers, Ind. 12176. CD 9/21—ENR 9/23.

†**Ind., Evansville**—Pub. Housing Auth., NHA, 201 N. Wells St., Chicago, Ill., site imprvs., addn. to recreation bldg., Ind. 12134 and 12135.

†**Kansas**—Lightning Creek Coal Co., Pittsburg, plant facilities. $80,000. Defense Plant Corp. will finance.

†**Md., Aberdeen**—Pub. Housing Auth., NHA, Temporary Bldg. 2, 19 and D Sts. N.W., Wash., D. C., plans by F. L. W. Moehle, 312 Professional Bldg., Baltimore, 160 family dwelling units, Md. 18269.

†**Mass., Edgartown**—Pub. Housing Auth., NHA, 24 School St., Boston, 40 dormitories, Mass. 19090.

★†**Michigan** — Ford Motor Co., Dearborn, addnl. plant facilities. Approx. $1,800,000. Defense Plant Corp. will finance.

†**Michigan**—Pub. Housing Auth., NHA, 2073 E. Ninth St., Cleveland, O., plans by Francis Engineering Co., Eddy Bldg., Saginaw, 180 temporary family dwelling units, Mi. 20218. CD 9/21—ENR 9/23.

†**Michigan**—Pub. Housing Auth., NHA, 2073 E. Ninth St., Cleveland, O., plans by Harley, Ellington & Day, Stroh Bldg., Detroit, trailer housing, Mi. 20216. CD 9/3—ENR 9/9.

†**Michigan**—Pub. Housing Auth., NHA, 2073 E. Ninth St., Cleveland, temporary family dwelling units, Mich. 20219.

†**Mich., Benton Harbor** — Pub. Housing Auth., NHA, 2073 E. Ninth St., Cleveland, O., 200 family dwelling units, Mich. 20220 and 100 family dwelling units, Mich. 20221.

†**Minn., Camp Savage (near Minneapolis)**—Pub. Housing Auth., NHA, 201 N. Wells St., Chicago, Ill., 10 family dwelling units, Minn. 21002, and 10 dormitories, Minn. 21003.

Minn., Minneapolis—General Hospital, 5 and 7 Aves. S., General Hospital and Elizabeth Kenny Institute addns.

†**Neb., Hastings**—Pub. Housing Auth., NHA, Dierks Bldg., 1006 Grand Ave., Kansas City, Mo., plans by Neville & Sharp, 801 Midland Bldg., Kansas City, Mo., 210 trailers, Neb. 25075.

†**Nev., Reno**—Pub. Housing Auth., NHA, 785 Market St., San Francisco, Calif., family dwelling units, Nev. 26156, and dormitory accommodations, Nev. 26157.

†**New Jersey and Pennsylvania**—National Union Radio Corp., 57 State St., Newark, N. J., addnl. plant facilities. Approx. $210,000. Defense Plant Corp. will finance.

★†**N. J., Lyons**—Veterans Admin., Vermont Ave. between H and I Sts. N.W., Wash., D. C., 2 story, brick, rein.-con. hospital bldg. $1,000,000.

†**New York and New Jersey**—Phelps Dodge Copper Products Corp., 40 Wall St., New York, N. Y., addnl. facilities at plants, approx. $250,000. Defense Plant Corp. will finance.

†**N. C., New River (br. New Bern)**—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., D. C., engineering and architectural services by Carr & J. E. Greiner Co., 111 Corcoran St., Durham, for completing Marine Corps facilities, Camp Lejeune, NOY 7795.

†**Ohio**—The Babcock & Wilcox Co., 85 Liberty St., New York, N. Y., addnl. plant facilities. $100,000. Defense Plant Corp. will finance.

†**Ohio**—Pub. Housing Auth., NHA, 2073 E. Ninth St., Cleveland, temporary family dwelling units, Ohio 33285.

★†**Ohio**—U. S. Eng., Wright Field, Dayton, bldgs., Montgomery Co. $3,000,000, incl. site.

★**O., Cleveland**—Bd. Comrs. Cuyahoga Co., F. Husak, clk., Court House, 2 hospital bldgs., at Sunny Acres Farm, $500,000.

†**Oklahoma**—U. S. Eng., 416 Wright Bldg., Tulsa, Zone 2, bldg., utilities, etc., Sol. 957-Neg-44-86, Garfield Co.

†**Oklahoma**—U. S. Eng., 416 Wright Bldg., Tulsa, Zone 2, addnl. facilities, bldgs., utilities, paving, etc., Sol. 957-Neg-44-83, Muskogee Co.

†**Okla., Oklahoma City**—Home Owners' Loan Corp., Cotton Exchange Bldg., Dallas, Tex., 150 family unit conversion program.

†**Oregon**—Pub. Housing Auth., NHA, Skinner Bldg., 5 Ave. and Union St., Seattle, Zone 1, Wash., plans by Wolff & Phillips, Pearson Fourth Ave. Bldg., Portland, addnl. community and commercial bldgs.

†**Oregon**—Pub. Housing Auth., NHA, Skinner Bldg., 5 Ave. and Union St., Seattle, Zone 1, Wash., plans by V. E. Bailey, 711 S.W. Columbia St., Portland, 30 family dwelling units, Ore. 35280. CD 9/21—ENR 9/23.

†**Ore., Portland**—Sisters of Charity, 700 NE 47 St., Providence Hospital nursery bldg. completion, $310,445. **FWA.**

†**Pennsylvania**—Pub. Housing Auth., NHA, 270 Bway., New York, 7, N. Y., housing development.

†**Pa., Borough Twp.**—School Dist. of Borough Twp., Vanport, plans by Carlisle & Sharrer, 119 Federal St., Vanport, school, Pa. 36181. **FWA.** CD 9/29—ENR 10/7.

†**Pa., Erie**—Federal Works Agency, 1101 Park Ave., New York, 17, N. Y., plans completed by Meyers & Johnson, 821 Commerce Bldg., and bids soon hospital addn., Pa. 36152.

†**Texas**—Pub. Housing Auth., NHA, 1205 Electric Bldg., Seventh and Taylor Sts., Fort Worth, plans by Hedrick & Lindsley & C. L. Ellis, Southern Standard Bldg., Houston, permanent family dwelling units, Tex. 7-3.

†**Texas**—Taylor Refining Co., Taylor, addnl. plant facilities. Approx. $390,000. Defense Plant Corp. will finance.

†**Texas**—U. S. Eng., 231 W. Main St., Denison, cancelled construction housing, Grayson Co. CD 9/1—ENR 9/7.

†**Tex., Beaumont, Orange, Port Arthur**—Pub. Housing Auth., NHA, 1205 Electric Bldg., Seventh and Taylor Sts., Fort Worth, 40 family dwelling units, Tex. 41619; 150 single dwelling units, Tex. 41620; 100 family dwelling units, Tex. 41621; 100 family dwelling units, Tex. 41622.

†**Tex., Pasadena**—Bd. Educ., City Hall, plans by Hedrick & Lindsley, Southern Stand. Bldg., Houston, school bldgs., facilities. $150,000. **FWA.**

†**Tex., Pyote**—Pub. Housing Auth., NHA, 1205 Electric Bldg., Seventh and Taylor Sts., Fort Worth, 180 family dwelling units, Tex. 41610.

†**Utah**—U. S. Eng., 32 Exchange Pl., Salt Lake City, bldg., Salt Lake Co. Under $50,000.

†**Utah, Drager**—Pub. Housing Auth., NHA, Dierks Bldg., 1006 Grand Ave., Kansas City, Mo., 350 family dwelling units, Utah 42168.

†**Utah, Salt Lake City**—Pub. Housing Auth., NHA, Dierks Bldg., 1006 Grand Ave., Kansas City, Mo., 50 stop-gap shelters, Utah 42169.

†**Virginia**—Alexandria Housing Auth., 131 Belvoir St., plans by J. H. Saunders, Alexandria, family dwelling units, D. C. 4-3, for NHA. CD 9/14—ENR 9/16.

†**Va., Timberville**—Pub. Housing Auth., NHA, Temporary Bldg. 2, 19 and D Sts. N.W., Wash., D. C., 50 trailers, Va. 44304.

†**Washington**—Pub. Housing Auth., NHA, Skinner Bldg., 5 Ave. and Union St., Seattle, Zone 1, plans by J. P. Jones, Hoge Bldg., Seattle, Zone 4, converting bunkhouses into dormitories, Wash., 45242.

†**Washington**—Pub. Housing Auth., NHA, Skinner Bldg., 5 Ave. and Union St., Seattle, Zone 1, plans by J. W. Maloney, Larson Bldg., Yakima, family dwelling units, Wash. 45239. CD 9/21—ENR 9/23.

†**Washington**—Pub. Housing Auth., NHA, Skinner Bldg., Fifth Ave. and Union St., Seattle, Zone 4, plans by E. W. Morrison & J. T. Jacobsen, 719 Second Ave., Bldg., Seattle, Zone 4, family dwelling units, Wash. 45240 and dormitory units, Wash. 45241, for King County Housing Auth., 4 and Cherry Bldg., Seattle, Zone 4. CD 9/29—ENR 10/7.

†**Washington**—U. S. Eng., 809 Third Ave., Seattle, Zone 4, bldgs., Neg. Nos. 800, 799 and 806, Grant Co.

†**Washington**—U. S. [illegible] Seattle, Zone 4, plan[illegible] No. 794, King Co.

†**Washington**—U. S. [illegible] Seattle, Zone 4, hou[illegible] 794, King Co.

†**Wash., Auburn**—H[illegible] Pacific Bldg., San Fr[illegible] unit conversion prog[illegible]

†**Wis., Racine-Kenosha**—Home Owners' Loan Corp., 336 N. Wells St., Chicago, Ill., family unit conversion program.

†**Wis., Racine-Kenosha**—Pub. Housing Auth., NHA, 201 N. Wells St., Chicago, Ill., 200 family dwelling units, Wis. 47072.

†**Wyoming**—U. S. Eng., 909 17 St., Denver, Colo., recreation bldg., Laramie Co.

B. C., Burnaby (Postal Dist. Vancouver)—School Bd., c/o C. Clifford Brown, Burnaby, plans by Harold Cullerne, Burnaby, addns. to school sys. $390,000.

Man., Winnipeg—Province of Manitoba, Winnipeg, new bldg. on east side Kennedy St. $200,000. Dpt. Pub. Wks., Winnipeg.

N. B., St. John—City Mayor Wassen, Hall, city abattoir. $[illegible]

N. S., Arichat—E. C. Doyle, municipal clk., hospital bldg. $[illegible]

★**Que., Montreal**—Dpt. Pensions & Health, 379 Common St., Ottawa, Ont., treatment units for convalescent veterans. $700,000.

BIDS ASKED

Bids Asked After October 9

†**New Jersey**—Pub. Housing Auth., NHA, 270 Bway., New York, 7, N. Y., community bldg., NJ 28101. Extended date. Plans deposit $10. S. Schenker, 195 Van Houten St., Paterson, archt. CD 9/28—ENR 9/30.

Bids Asked After October 12

†**Connecticut**—Pub. Housing Auth., NHA, 24 School St., Boston, Mass., family dwelling units, Conn. 6205. Extended date. Hall & Loomis, 175 Main St., Bristol, archts. 10/1—ENR 10/7.

Bids Asked October 18

★†**Connecticut** — Chance Vought Aircraft Div., United Aircraft Corp., 330 Main St., Stratford, assembly plant addn. $[illegible] Defense Plant Corp. will finance. Albert Kahn Associated Architects & Engineers, 345 New Center Bldg., Detroit, Mich., engr. CD 9/6.

†**Connecticut**—Pub. Housing Auth., NHA, School St., Boston, Mass., sewage disposal, collection sys., housing Conn. 6803 and [illegible]. Plans deposit, $50 first set and $10 for addnl. set. Payne & Keefe, 251 State St., New London, archts. CD 9/29—ENR 10/7.

†**Maine**—Pub. Housing Auth., NHA, School St., Boston, Mass., site imprvs., sewage treatment plant, etc., for housing, Me. [illegible]. Plans deposit $50 for first set, $10 for addnl. set.

†**New Jersey**—Bethlehem Steel Co., [illegible] 14 St., Hoboken, women's service bldg., and 2 story, brick storage bldg. addn., [illegible]erally financed. Lockwood-Greene, 2[illegible] feller Plaza, New York, N. Y., engrs.

Bids Asked October 19

†**Connecticut**—Chance-Vought Aircraft, United Aircraft Corp., 350 Main St., [illegible]ford, laboratory alterations, improvements, VS 44. Defense Plant Corp. will finance. Albert Kahn Associated Architects & Engineers, Inc., 345 New Center Bldg., Detroit, Mich., engr.

Bids Asked about October 20

†**Indiana**—Pub. Housing Auth., NHA, 201 N. Wells St., Chicago, Ill., family dwelling units, Ind. 12177. A. M. Strauss, [illegible] Bldg., Fort Wayne, archt. CD 9/21—9/23.

Bids Asked After October 20

†**Pennsylvania**—Pub. Housing Auth., NHA, 270 Broadway, New York, 7, N. Y., community and administration bldg., Pa. 36041. Extended deposit $10. Lovelace & Spellman, [illegible] Broad St., Bethlehem, archts. CD 9/28—ENR 6/5/41.

†**Pennsylvania**—Pub. Housing Auth., NHA, 270 Bway., New York 7, N. Y., community and administration bldg., Pa. 36041. Extended date. Plans deposit $10. Lovelace & Spellman, 103 W. Broad St., Bethlehem, archts. CD 9/15—ENR 9/23.

Bids Asked October 21

Ky., Lakeland—W. P. Hegarty, dir. of Purchases, 230 New State Office Bldg., Frankfort, ward bldg., Central State Hospital. Plans deposit $50.

†**Mass., Lynn**—Lynn Hospital, 222 Boston St., 4 story, brick, wood hospital, Mass. [illegible] $150,000. **FWA.** Stevens, Curtin, Mason & Riley, 45 Newbury St., Boston, Mass., archts. CD 8/26—ENR 9/2.

Bids Asked October 25

†**Texas**—Pub. Housing Auth., NHA, 1205 Electric Bldg., Seventh and Taylor Sts., Fort Worth, family dwelling units, Tex. 41[illegible]. Plans deposit $50. J. H. Hughes & R. C. Hughes, 316 Citizens National Bank Bldg., Austin, and Consolidated Architects & Engineers, Capps Bldg., Fort Worth, archts. CD 10/5—ENR 10/7.

BLDGS. (Bids Asked, Cont'd.)

Bids Asked October 25

ington — Bureau of Reclamation, ...e, Denver, Colo., welded-plate steel ... welded-plate steel air manifolds, ...lant-steel discharge pipes, etc., for ...on in right powerhouse, Grand ...Dam, Columbia Basin Proj., Spec.

Bids Asked October 26

Hartford—Bd. Contr. & Supply, 550 ... brick, steel hospital, Conn. 6-104. Plans deposit $25. Ebbets & Frid, ... St., archts. CD 7/14—ENR 7/22.

...Pub. Housing Auth., NHA, 2073 E. ... Cleveland, dormitory units, Ohio ...otter & Martin, 35 E. 7 St., Cincin... ...chts. CD 10/8—ENR 10/7.

Bids Asked October 28

Goldsboro—Pub. Bldgs. Admin., 18 ...s. N.W., Wash., D. C., public health ...ldg., N.C. 31-238. Extended date. ...axwell, 509 Borden Bldg., archt. CD ...NR 9/23.

Hampton—Pub. Bldgs. Admin., 18 and ...W. Wash., 25, D. C., Dixie Hospi... ...e home, Va. 44-268. CD 11/4/42—...12/42.

Bids Asked about October 29

Jersey—Pub. Housing Auth., NHA, ... New York, 7, N. Y., family dwell... ...NJ 5-3. $300,000. Micklewright & ...d. 219 E. Hanover St., Trenton, ...CD 10/10—ENR 9/16, under BA.

...ado—Pub. Housing Auth., NHA, ...Bldg., 1006 Grand Ave., Kansas City, ...ily dwelling units, Colo. 5108. T. H. ...Co., 730 14 St., Denver, archts. CD

Humboldt—City, c/o G. Foltz, ...brick concrete hospital, Tenn. 40-183. **FWA.** Extended date. Dent & First National Bank Bldg., Memphis, CD 8/25—ENR 7/15.

Bids Asked after November 1

...sylvania—Pub. Housing Auth., NHA, ...y., New York, 7, N. Y., family ... units, Pa. 36439. Plans deposit $20. ...urray, 1100 North Second St., Harris... ...rcht. CD 10/6.

Bids Asked November 2

...arton—Pub. Bldgs. Admin., 18 and ...W., Wash. 25, D. C., 100 bed tem... ...ddn. to Miami Valley Hospital, Ohio **FWA.** Extended date. Schenck & ..., 1406 Third National Bank Bldg., ...CD 8/24—ENR 8/26.

Bids Asked November 3

Evansville—Pub. Bldgs. Admin., 18 ...s. N.W., Wash., 25, D. C., 3 and 2 ...mnt., brick, stone, rein.-con. hospital ...and nurses' home at Protestant ...e Hospital, 614 Mary St. $250,000. Plans deposit $25. Extended date. ... Garden & Erickson, 104 S. Michigan ...rago, Ill., archts. CD 9/2—ENR 9/9.

Bids Asked November 4

...ado—Pub. Housing Auth., NHA, ...Bldg., 1006 Grand Ave., Kansas City, ...ily dwelling units, Colo. 5109. $300,... ... H. Buell & Co., 730 - 14 St., Denver, ...CD 10/8.

Bids Asked November 5

...gan—Pub. Housing Auth., NHA, 2073 ... St., Cleveland, O., temporary fam...ing units, Mi. 20036. Plans deposit ...arley, Ellington & Day, Stroh Bldg., ... archts. CD 10/1—ENR 10/7.

...shington—Pub. Bldg. Admin., 18 and ...N.W., Wash., 25, D. C., 3, McLough...chts, Burton Homes, Bagley Downs, ...alley Schools and Ogden Meadows ...igh School, $800,000. Extended date. ...se & Roehr, Railway Exchange ...Portland, Ore., and D. J. Stewart, ...Bldg., Vancouver, archts. CD 9/3—...

Bids Asked November 9

Perry Point—Veterans Admin., Ver...e between H and I Sts. N.W., Wash., ...rehouse bldg. addn.

Bids Asked About November 10

...born—Pub. Bldgs. Admin., 18 and F ..., Wash., D. C., recreation bldg., ...20. CD 10/8.

... Seattle—Pub. Bldgs. Admin., 18 ...s. N.W., Wash., 25, D. C., Duwamish ...School, Wash. 45-259-2. Jones, ... Thiry & Shay, 715 Hoge Bldg., ...CD 9/1—ENR 9/9.

Bids Asked about November 12

...ia—Pub. Housing Auth., NHA, Tem...Bldg. 2, 19 and D Sts. N.W., Wash., ...rmitory housing, Va. 44278. Carneal, ... & Wright, 1000 Atlantic Life Bldg., ..., archts. CD 8/13—ENR 8/19.

Bids Asked November 15

Williamburg—Pub. Housing Auth., ...mporary Bldg. 2, 19 and D Sts. N.W., ...D. C., 250 family dwelling units, VA. ...Wiley & Wilson, Lynchburg, engrs. ...chts. CD 7/2—ENR 7/8.

†**Va., Williamsburg**—Pub. Housing Auth., NHA, Temporary Bldg., 2, 19 and D Sts. N.W., Wash., D. C., 140 family dwelling units, VA. 44279. Wiley & Wilson, Lynchburg, engrs. and archts. CD 7/20—ENR 7/22.

Bids Asked

†**Massachusetts**—U. S. Eng., Park Square Bldg., Boston, bldgs., No. 19-023-44-Neg. 88, Barnstable Co., $80,000.

★**Texas** — Humble Oil & Refining Co., Humble Bldg., Houston, octane gasoline plant expansion. $2,750,000. Defense Plant Corp. will finance. CD 9/22—ENR 9/30.

LOW BIDDERS

†**Ala., Huntsville**—Pub. Bldgs. Admin., 18 and F Sts. N.W., Wash., 25, D. C., school, Units A and B, Docket Ala. 1213, from Christian & Bell Co., 101 Marietta St. N.W., Atlanta, Ga., **$242,796. FWA.** CD 9/15—ENR 9/23.

†**Arizona**—U. S. Eng., 751 S. Figueroa St., Los Angeles, Zone 14, Oct. 1, laundry and dry cleaning facilities, Sol. 257F, Cochise Co., from A. C. LaRue Constr. Co., 3114 N. Campbell Ave., Tucson, **$100,000-$200,000.**

†**Kansas**—Pub. Housing Auth., NHA, Dierks Bldg., 1006 Grant Ave., Kansas City, Mo., Spec. 28, family dwelling units, Kan. 14136, Proposal 1, from Ramey Bros., Amarillo, Tex., **$428,000;** Proposal 2, from Platt Rogers, Inc., 29 and Court Sts., Pueblo, Colo., **$490,000.** CD 9/7—ENR 9/9.

★**Maryland** — Pub. Housing Auth., NHA, Temporary Bldg. 2, 19 and D Sts. N.W., Wash., D. C., Oct. 7, housing projects, Md. 18261, 18262, 18263 and 18264, from John A. Johnson & Sons, Inc., 268 41 St., Brooklyn, N. Y., **(1) $1,827,000, (2) $1,890,000.** CD 9/9.

★†**Massachusetts**—U. S. Eng., Park Sq. Bldg., Boston, Oct. 8, bldgs., No. 19-023-44-Neg-73, from Rugo Constr. Co., 80 Boylston St., Boston, **$1,748,500.** CD 10/5—ENR 10/14.

†**Oklahoma**—Pub. Housing Auth., NHA, 1205 Electric Bldg., Seventh and Taylor Sts., Fort Worth, Tex., Oct. 2, family dwelling units, Okla. 34075, from Atlas Constr. Co., Texarkana, Tex., **$442,398.** CD 9/21—ENR 9/23.

†**Oregon**—Pub. Housing Auth., NHA, Skinner Bldg., 5 Ave. and Union St., Seattle 1, Wash., family dwelling units, Ore. 35271, 35273 and 35274, from Lease & Leigland, P.O. 4228, Portland, **$419,350.** CD 9/8—ENR 9/16.

★†**Texas**—Pub. Housing Auth., NHA, 1205 Electric Bldg., Seventh and Taylor Sts., Fort Worth, Oct. 5, family dwelling units, site work, utilities, etc., Tex. 41-611, from P. O'B. Montgomery, 913 S. Akard St., Dallas, **$1,157,000.** CD 9/21.

†**Virginia**—Pub. Housing Auth., NHA, Temporary Bldg. 2, 19 and D Sts. N.W., Wash., D. C., Oct. 5, road resurfacing for housing Va. 44132, from Leo Butler Co., Silver Springs, Md., **$38,364.**

†**Washington**—Pub. Housing Auth., NHA, Skinner Bldg., Fifth Ave. and Union St., Seattle, Zone 1, Oct. 1, temporary housing units, Wash. 45236, from Strand & Sons, 3935 University Way, Seattle, Zone 5, **$455,900.** CD 9/1—ENR 9/9.

★†**Wash., Seattle**—King Co. Medical Service Corp., Orpheum Bldg., Zone 1, Oct. 5, hospital bldg., from Sound Constr. & Eng. Co., Northern Life Tower, Seattle, Zone 1, **$639,000.** CD 6/30—ENR 7/8.

CONTRACTS AWARDED

†**California**—Pub. Housing Auth., NHA, 2100 Linda Vista Ave., San Diego, sidewalks at housing, Calif. 4092, to R. E. Hazard & Sons, Box 1510, San Diego, **$53,772.**

★†**California**—Pub. Housing Auth., NHA, 785 Market St., San Francisco, family dwelling units, Calif. 4745, to L. H. Hansen & Sons, Box 1784, Fresno, **$517,845.** CD 10/5—ENR 10/7.

†**California**—U. S. Eng., 74 New Montgomery St., San Francisco, bldgs., Spec. 1112, San Francisco Co., to Standard Bldg. Co., 1200 Judah St., San Francisco. Est. under **$80,000.** Awarded 10/4. CD 9/24—ENR 9/30.

†**California**—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., D. C., Mark I AA trainer bldgs., miscellaneous facilities, AA TC, Pt. Montara, NOY 6646, to Dinwiddie Constr. Co., Crocker Bldg., San Francisco, Zone 4, **$72,426.**

Calif., Berkeley—University of California, carpenter and sheet metal shops and foundry bldg., to J. E. Branagh, 105 Sheridan Ave., Piedmont. Est. **$50,000.**

†**Calif., San Bruno**—Yards & Docks, Navy Dpt., 18 St. and Consitution Ave. N.W., Wash., D. C., addnl. alteration and training facilities, NOY 7006, to Monson Bros., 475 6 St., San Francisco, **$111,178.** CD 9/28.

†**Florida**—Pub. Housing Auth., NHA, Georgia Savings Bank Bldg., Peachtree and Broad Sts., Atlanta, Ga., family dwelling units, Fla. 8224, to G. A. Paul, 14 Bonita Dr., Birmingham, Ala., **$260,000.** CD 9/10—ENR 9/2.

Fla., Jacksonville—City Comrs., City Hall, driving piling, constructing fdn. and concrete work and supervising installation feed pumps, electrical equip. for new boiler exten. at Municipal Electric Plant, to George D. Auchter Co., Commodores Point, Jacksonville, Zone 1, **$65,000.** Bids 9/30, awarded 10/1. CD 9/24.

†**Illinois**—U. S. Eng., 520 Merchandise Mart, Chicago, temporary frame bldg., Contr. 11-932-Eng-599, Madison Co., to John Felmley Co., Bloomington, **$300,000.**

La., New Orleans—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., D. C., storehouse and locker bldg., Naval Station, NOY 6,000, to R. P. Farnsworth Co., 1515 S. Salcedo St., New Orleans, **$290,078.** CD 9/24.

★†**Maryland**—Fairchild Aircraft Corp., Hagerstown, factory addtn., to Consolidated Engr. Co., 20 E. Franklin St., Baltimore. Est. **$600,000.** Federally financed. CD 8/31—ENR 9/2.

†**Md., Bainbridge**—Yards & Docks, Navy Dpt., 18 and Constitution Ave. N.W., Wash., D. C., reconstructing school at Naval Training Station, NOY 6891, to C. H. Tompkins Co., 907 16 St. N.W., Wash., D. C., **$194,400.**

†**Md., Cedar Point**—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., D. C., dispensary, mess hall, maternity and out patient ward at Naval Air Station, NOY 7492, to Irons & Reynolds, Barr Bldg., Wash., D. C., **$279,900.** CD 10/6 under LB.

†**Massachusetts**—U. S. Eng., 31 St. James Ave., Boston, grading and road work for bldgs., Middlesex Co., to C. J. Maney Co. Inc., 24 St., Somerville. CD 9/9—ENR 9/16.

★†**Michigan**—Defense Plant Corp., 811 Vermont Ave. N.W., Wash., D. C., shopping center, nursery school, parking lot, power house for Willow Run development, to Darin & Armstrong, 2041 Penken Ave., Detroit. est. **$1,000,000.**

†**Mich., Center Line**—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., D. C., storage facilities for Class B tools and patterns, Naval Ordnance Plant, NOY (F) 20020, to O. W. Burke Co., Fisher Bldg., Detroit, **$56,882.**

†**New Jersey**—Bethlehem Steel Co., foot of 14 St., Hoboken, 70x150 ft., concrete, brick machine bldg., to Auf Der Heide Aragona Corp., 55-10 Jackson St., West New York, **$130,000.** Federally financed. Lockwood-Greene, 10 Rockefeller Plaza, New York, N. Y., engrs.

★†**New Jersey**—Pub. Housing Auth., NHA, 270 Bway., New York, 7, N. Y., housing, NJ 28162, to Mutual Constr. Co., 7 E. 42 St., New York, N. Y., **$579,420.** Bids 9/24. CD 10/1—ENR 10/7, under LB.

†**New Jersey**—U. S. Eng., 6 and Walnut Sts., Phila., Pa., bldgs., Burlington Co., to Costanza Bros. Constr. Co., 5328 Sherwood Terrace, Merchantville, **$100,000.**

†**New Jersey**—Wright Aeronautical Corp., 132 Beckwith Ave., Paterson, converting loft bldg. into mfg. bldg., and addn., etc., to Mahony-Troast Corp., 657 Main Ave., Paraic, **$60,000.** Federally financed.

†**N. C., Elizabeth City**—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., D. C., ammunition storage facilities, NAS and CGAS, NOY 7041, to Wm. Muirhead Constr. Co., Inc., Box 2012, Durham, **$64,450.**

†**Ohio**—Eagle Rubber Co., Inc., Richard Long, pres., Ashland, design and construction 3 story, brick, steel factory bldg., to Austin Co., 16112 Euclid Ave., Cleveland. Est. **$80,000.** Federally financed. CD 10/1—ENR 10/7.

†**Ohio**—Firestone Tire & Rubber Co., 1278 S. Main St., Akron, 1 story, 141x150 ft., brick, steel synthetic rubber factory addn., to Carmichael Constr. Co., 148 Miller Ave., Akron. Est. **$215,000.** Awarded 10/1. Defense Plant Corp. will finance, Wilbur Watson & Assoc., 4614 Prospect Ave., Cleveland, archts.

†**Ohio**—Mansfield Tire & Rubber Co., Mansfield, 5 story, 100x100 ft., brick, rein.-con. factory, to Steinle-Wolfe Co., 1515 Croghan St., Fremont. Est. **$200,000.** Federally financed. CD 10/1—ENR 10/7.

†**Ohio**—Pub. Housing Auth., NHA, 2073 E. Ninth St., Cleveland, drainage work for housing, to W. B. Gibson Co., 200 E. Chestnut St., Warren, **$57,752.** H. J. Waldeck, 848 Mason St., Warren, archt.

★†**Ohio**—U. S. Eng., Wright Field, housing, Contr. 33-046-eng-26, Greene Co., to McGraw Constr. Co., Inc., Middletown, **$700,000.**

†**O., Cleveland**—Home Owners' Loan Corp., 122 Old Post Office Bldg., converting 7 story office bldg. into 120 suites at 4300 Euclid Ave., to Burgs Constr. Co., 12404 Edmonton Ave. Est. **$200,000.** Awarded 10/1. M. H. White, 750 Prospect Ave., archt.

†**O., Steubenville**—Ohio Valley Hospital Assn., Ross Pike, Steubenville, general contract, 4 story, bsmnt., brick, rein.-con. hospital addn., Ohio 33-171 to Siesel Constr. Co., 3528 Forbes St., Pittsburgh, Pa., **$191,843;** plumbing and heating, to C. Newman Co., 1425 Chapline St., Wheeling, W. Va., **$60,500.** **FWA.** CD 9/16.

★†**Oklahoma**—Pub. Housing Auth., NHA, 1205 Electric Bldg., Seventh and Taylor Sts., Fort Worth, Tex., family dwelling units, Okla. 34076, to Joseph P. Snyder, Cherry Lane, Fort Worth, Tex., **$579,000.** Bids 9/23, awarded 10/4. CD 9/30—ENR 10/7, under LB.

★†**Oklahoma**—U. S. Eng., 231 W. Main St., Denison, Tex., bldgs., Sol. 257-44-55, Comanche Co., to W. A. Zant, Box 275, Lawton, **$760,000.** CD 9/5—ENR 9/7.

PUBLIC BLDGS. (Contracts Awarded, Cont'd.)

†**Pennsylvania**—Pub. Housing Auth., NHA, 270 Bway., New York, 7, N. Y., site imprvs., housing Pa. 37121, to Samkay Builders, Inc., 907 Law & Finance Bldg., Pittsburgh, **$154,985.** CD 8/26.

†**Rhode Island**—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., D. C., bldgs., to Tredennick Billings Co., P. O. Box 89, Newport. Est. **$50,000-$100,000.** Bids 10/7. CD 9/30.

★†**Texas**—Pub. Housing Auth., NHA, 1205 Electric Bldg., Seventh and Taylor Sts., Fort Worth, family dwelling units, Tex. 41617, to J. K. Bateson Co., 1103 Allen Bldg., Dallas, **$838,800.** Bids 10/2, awarded 10/4. CD 9/21.

★†**Texas**—Pub. Housing Auth., NHA, 1205 Electric Bldg., Seventh and Taylor Sts., Fort Worth, family dwelling units, Tex. 41-616, to Robert E. McKee, 1918 Texas St., El Paso, **$929,000.** CD 10/7, under LB.

†**Texas**—Shredded Steel Co., 1518 Oliver St., Houston, oil storage bldg., lean-to, scale pits, asphalt paving, etc., force-account. **$62,000.** Defense Plant Corp. will finance. CD 9/17—ENR 9/23.

†**Virginia**—U. S. Eng., Fort Norfolk, Norfolk, temporary frame bldg., Contr. 816-Eng-2706, to Laxton Constr. Co., Inc., Charlotte, N. C., **$200,000;** temporary frame bldg., walks, etc., Contr. 616-Eng-2707, to Ross Engr. Co., Inc., 3308-14 St. N.W., Wash., D. C., **$200,000,** both Warwick Co. CD 9/21—ENR 9/23.

★†**Va., Norfolk**—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., D. C., shop bldg. exten., NAS, NOY 6816, to Virginia Eng. Co., Newport News, **$678,000.**

★**British Columbia**—Dpt. Munitions & Supply, Ottawa, Ont., men's quarters, special training bldgs. and hangar, to Marwell Constr. Co., Ltd., 540 Howe St., Vancouver, **$900,000.** Awarded 10/6.

COMMERCIAL BUILDINGS

PROPOSED WORK

Calif., San Leandro—Stanley M. Davis, 640 Bancroft St., one hundred two 1 story, frame residences, $357,000.

Calif., San Leandro—F. J. Federighi, 695 E. 14 St., San Leandro, and A. T. Beckett, 366 40 St., Oakland, one hundred one 1 story, frame residences, $353,500.

Calif., San Leandro—Valley & Lincoln, Inc., 1493 Davis St., 1 story, frame residence, $150,000.

Conn., Bridgeport—Approved Homes, Inc., 4851 Main St., plans by F. C. Anderson, 177 State St., residential development, $150,000.

Kan., Baldwin—Baker University, Baldwin, rebuilding gymnasium, destroyed by fire. $250,000.

Kan., Ft. Scott—First Baptist Church, Fort Scott, sketches by Ernest O. Brostrom, 6330 Walnut St., Kansas City, church, remodeling and addn.

★**Minn., Duluth**—St. Mary's Hospital, 429 E. 3 St., addnl. hospital units. $1,030,278. Applied for FWA funds.

Mo., North Kansas City—North Park Development Co., 300-27 St., plans by W. H. Sayler, 830,1207 Grand Ave., Kansas City, Mo., thirty-four 1 story duplexes.

Mont., Great Falls—St. Ann's Parish, high school. $200,000.

Neb., Omaha—Watson Bros. Transportation Co., 802 S. 14 St., truck terminal, $250,000.

O., Euclid—Samuel Feiner & Son, Inc., 3430 Blanche Rd., seventeen 2 story, 26x74 ft., brick dwellings, $187,000. CD 4/26—ENR 4/29.

Ore., Portland—Julias Zell, 639 S. W. Broadway, plans by Dougan & Helms, 409 Couch Bldg., Portland, conversion of Multnomah block, W. Burnside and 19 Ave. into 13 unit apartment house. $300,000.

Tex., Brownsville—G. A. Jackson & Davis, 5206 Alcott St., Dallas, 109 composition asbestos type dwelling units, $475,000.

★**Tex., Dallas**—Delsing & Lamberth and Lewis & McDaniel, 2900 W. Davies St., 265 one story dwellings. $1,000,000 FHA.

Tex., Dallas—H. W. Ferguson, Jr., Dallas Natl. Bank Bldg., 110 one story, frame dwellings, street paving, etc., $425,000.

★**Tex., Dallas**—Murray Investment Co., Republic Bank Bldg., 147 dwellings. $625,000 FHA.

Tex., Houston—Pasadena Gardens Development Co., Pasadena, plans by D. M. Duller, 2nd Natl. Bank Bldg., constructing, developing community trade center. $150,000.

Que., Montreal—Prudential Constr. Co., Ltd., 4820 Western Ave., Montreal, bungalows, $150,000.

Que., Mount Royal (Postal District Montreal)—Mount Royal Building Co., Ltd., 459 Laird Blvd., Mount Royal, dwellings, $150,000.

★**Que., Ste. Marguerite (Postal District Three Rivers)**—Cooke Sanatorium Bd., Ste. Marguerite, plans by E. Denoncourt, 1425 Notre Dame St., Three Rivers, hospital addn. $800,000.

Que., St. Lazare—R. C. Parish of St. Lazare, St. Lazare, church, $150,000.

BIDS ASKED

Bids Asked October 18

New York—Bethlehem Steel Co., 3075 Richmond Terrace, Staten Island, office and storage bldg., Richmond Co.

CONTRACTS AWARDED

★**Calif., Long Beach**—Glenn A. Doughty, 8063 Beverly Blvd., Los Angeles, 352 frame, stucco dwellings. Owner builds. Est. over **$500,000.** R. S. Loring, 7411 Beverly Blvd., Los Angeles, archt. W. G. Chandler, 7411 Beverly Blvd., Los Angeles, engr.

Calif., Torrance—Jewell Homes, Inc., Citizens Natl. Bank Bldg., Los Angeles, one 4 family, twenty-three 3 family, and twelve 2 family dwellings. Owner builds, **$250,000.**

Me., Portland—Lindsay Constr. Co., 141 Main St., South Portland, ten 1½ story, 24x30 ft. dwelling units. Owner builds. **$180,000.** Prentiss & Carlisle Co., Inc., 12 Hammond St., Bangor, archts.

★**N. J., Irvington**—Grove St. Corp., 2 Broad St., Bloomfield, one hundred fifty-six 2 story bsmnt., brick, frame Berkley Garden dwellings, to Garden Constr. Co., 2 Broad St., Bloomfield, **$594,097.** B. Braunstein, 163-18 Jamaica Ave., Jamaica, N. Y., archt.

O., Cleveland—Louis M. Cowan, 3324 Lorain Ave., Cleveland, 3 story, bsmnt., brick, apt. bldg., to W. Hoisbauer, 1423 E. 93 St. Est. **$150,000.**

★**O., Cleveland**—Shaker Square Apartments, Inc., 309 Marshall Bldg., 15 apartment bldgs., to Loftus & Feldman, Marshall Bldg. Est. **$1,500,000.** George Howard Burrows, 3113 Moreland Blvd., archt. CD 9/6—ENR 9/9.

Pa., New Castle—Andrews Realty Co., M. Dale Andrews, pres., RD 7, New Castle, thirty-one 1½ story, bsmnt., 22x32 ft. and forty-nine 2 story, bsmnt., 21x26 ft. brick dwellings, to Heller Murray Co., 222 W. Raven Ave., Youngstown, O. Est. **$480,000.**

Tex., Dallas—H. W. Ferguson, Jr., Dallas Natl. Bank Bldg., one hundred and ten 1 story frame dwellings, concrete fdns., force account, **$436,000.** CD 10/6—ENR 10/14.

★**Tex., Houston**—Miller-Estes Co., 3300 Main St., three hundred and four 1 story, frame, stucco type dwellings, force account **$1,200,000.** P. R. Plumb, 3738 Harper, engr. CD 9/14—ENR 9/16.

INDUSTRIAL BUILDINGS

PROPOSED WORK

Ill., Pana—FACTORY—Illinois Glove Co., Champaign, factory, $50,000.

Ind., Columbia City—FACTORY—Maier, Outcalt & Associates, archts., 13124 Shaker Sq., Cleveland, O., soon lets contract factory and office bldg. addn., alterations, for Weatherhead Co., A. J. Weatherhead, Jr., pres., 300 E. 131 St., Cleveland, O. $125,000.

La., Opelousas—WAREHOUSE—Berthaud Gin Co., Opelousas, cotton storage or warehouse. $40,000.

Mich., Saginaw—FACTORY—U. S. Graphite Co. plans by Frantz & Spence, 118 North Washington Ave., brick, concrete factory. $50,000.

N. Y., Penn Yan—PLANT—Comstock Canning Co., Morris Johnson, supt., Penn Yan, rebuilding canning plant, destroyed by fire, to exceed $40,000.

Pa., Schenley—BOILER HOUSE, etc.—J. S. Finch Co., Inc., Schenley, plans nearing completion, 1 story, 40x60 ft., brick boiler house addn. and 2 story, 58x65 ft. dryhouse, etc. C. K. Keifer, 26 E. 6 St., Cincinnati, O., engr.

Pa., Somerset—PLANT—Somerset Farm Bureau Cooperative Assn., Myrl Ream, mgr., W. S. Edgewood Ave., completed sketches 2 story, 65x120 ft. food locker and freezing plant. $60,000.

Tex., Floresville—PLANT—Houston Lichnovsky Gin Co., Floresville, cotton gin plant and storage. $40,000.

Tex., San Antonio—BAKERY PLANT—Alamo Bakery Co., 803 Wyoming St., bakery plant bldg., facilities, $40,000. L. M. J. Diel-mann, 145 North St., engr.

Tex., San Augustine—PLANT—F. Thompson Gin Co., San Augustine, reconstructing cotton gin plant, storage and facilities. **$40,000.**

Wis., Cedarburg—ENGINEERING—Kiekhaefer Corp., Western Ave., plans by Eschweiler & Eschweiler, 720 E. Mason St., Milwaukee, 1 story, 41x120 ft., bsmnt., brick, tile, engineering bldg.

B. C., Prince George—PLANT—Western Spruce Sawmills Ltd., Freeman Bldg., saw mill and allied plant. $40,000.

B. C., Vancouver—SAW MILL, etc.—Olsen Creek Logging Co., Ltd., 1318 Standard Bank Bldg., Vancouver, saw mill and allied plant.

B. C., Victoria—PLANT—Snug Basin Timber Co., Ltd., 531 Bastion St., logging plant, saw and shingle mill.

Man., Winnipeg—PLANT—Burns & Co., Ltd., 7 Logan Ave., Winnipeg, plant exten. $50,000.

Ont., Dobie—PLANT—Upper Canada Mines, Ltd., 85 W. Richmond St., Toronto, hoisting plant and other mining bldgs. $50,000.

Ont., Sault Ste. Marie—PLANT—[illegible] Steel Corp., Ltd., [illegible] plant addn., concrete [illegible] $40,000.

Ont., Sault Ste. Marie—PLANT—[illegible] Mining & Smelting [illegible] Ltd., [illegible] St., Sault Ste Marie, [illegible] plant addn. $150,000.

Ont., Toronto—PLANT—[illegible] c/o Mansell B. Jackson, [illegible] $40,000.

Ont., Toronto—PLANT—Russel Reid Gold Mines Ltd., [illegible] J. Reid, K.C., King St., general development [illegible] crushing and washing plant and [illegible] mines bldg. $100,000.

Ont., Windsor—REPAIR SHOP—[illegible] Engineering Enterprises Ltd., c/o Butcher, Riverside, mfg. and general [illegible] ery, etc. repair shop. $40,000.

Que., Baie St. Paul—PLANT—[illegible] Association, Inc., 274 Charest Blvd., [illegible] City, cold storage plant, etc. $40,000.

Que., Beauport—SAW MILL, etc.—[illegible] plain Brick Ltd., Beauport, saw mill allied plant, $50,000.

Que., Montreal—FACTORY—[illegible] Ltd., c/o C. A. Mathieu, 332 W. St. James, curing, preserving and canning [illegible] $50,000.

Que., Montreal—FACTORY—[illegible] Corp., Ltd., c/o R. A. Clavin, 2345 [illegible] Ave., factory. $40,000.

Sask., Regina—PLANT—Fearn Laboratories Inc., c/o Hugh E. Allen, Northtrend, U. S. A., chemical mfg. plant, training centrates of farm food products and products from grains. $50,000.

Sask., Regina—SILICA SAND DEPOSITS—Syndicate, c/o Sask. Industrial Development Bd., c/o H. W. Monahan, mgr. Regina, velopment silica sand deposits [illegible] Hudson Bay Junction and processing [illegible]

BIDS ASKED

Minn., South St. Paul—PLANT—[illegible] Co., C. A. Cushman, genl. mgr., 4 story, con., steel packing plant addn. [illegible] official).

CONTRACTS AWARDED

★**California**—GASOLINE REFINERY—[illegible] field Oil Co., Richfield Bldg., Los Angeles, gasoline refinery, to Lummus Co., [illegible] Spring St., Los Angeles. Est. $13,000,000.

★**Mont., Livingston**—LOCOMOTIVE SHOPS—[illegible]—Northern Pacific Ry., B. Bluni, engr., 176 E. 5 St., St. Paul, Minn., locomotive shops to Austin Co., Derby Bldg., Seattle, Wash. **$1,450,000.**

Neb., Lincoln—PLANT—Lincoln Packing Co., 320 N. St., plant, to Olson-Assenmacher, Rokahr, 1815 Y St. Est. $200,000. CD 9/30—ENR 9/30.

N. H., Concord—STORAGE—Lawrence Rathburn c/o Society Protection of New Hampshire Forests, Concord, quick freeze storage bldg., 500 separate lockers, S. State St., to H. E. Humphries, 57 South Main St.

N. J., Clark—PLANT—Hyatt Roller Bearing Co., 427 Middlesex Ave., Harrison, 1 story garage, to Wm. Blanchard, 45 Poinier St., Newark, **$40,000.** H. Smith, 427 Middlesex Ave., Harrison, engr.

N. J., Harrison—PLANT—Radio Corporation of America, 415 S. 5 St., Harrison, 1 story, 1 story locker bldg., to Salmond-Scrimshaw Co., 526 Elm St., Arlington, **$40,000.** CD 9/30—ENR 9/30.

N. J., Kearny—PLANT—United Cork Co., foot of Central Ave., 1 story, concrete and brick mfg. bldg., to Rutherford General Contr. Co., 23 Union Ave., Rutherford, **$60,000.** CD 9/28—ENR 9/30.

N. J., Livingston—GARAGE—De Camp Bus Lines, 49 W. Mt. Pleasant Ave., 1 story, 60 x 100 ft. bus garage addn., to O. A. Peterson Const. Co., 78 N. Willow St., Montclair, **$45,000.** CD 8/30—ENR 9/2.

N. J., Morristown—PLANT—Allied Chemical & Dye Corp., 61 Broadway, New York, 1 story, laboratory bldg., to H. K. Ferguson Co., 25 W. 43 St., New York, N. Y., **$40,000.**

N. J., Rahway—PLANT—Merck Co., Inc., Lincoln Ave., general alterations to mfg. bldg., to Oschwald Constr. Co., 156 Chestnut Ave., Newark, **$40,000.** CD 8/16.

O., Akron—FACTORY—Seiberling Rubber Co., 345 15 St., Barberton, 2 story, 60x180 ft. rein.-con., brick factory addn., to Natl. Concrete Fireproofing Co., Citizens Bldg., Cleveland. Est. $60,000. Albert Kahn Associated Architects & Engineers, Inc., New Center Bldg., Detroit, Mich., engr. archt.

Pa., Phila.—TRAINSHED—Pennsylvania R. R. Co., L. Gressitt, ch. engr., Broad Street Sta. Bldg., new Broad Street Trainshed to Murphy, Quigley & Co., Sansom St., **$150,000.**

Tex., Longview—PLANT—Madera Corp., Longview, doubling existing foundry from 200 to 400 tons monthly, account. **$125,000.**

★**Wash., Seattle**—PLANT—Frye & Co., Airport Way, 4 story parking [illegible] Henrik Valle Co., 407 3 Ave. W. Est. $[illegible] Henschein, Everds & Crombie, 59 E. Van Buren St., Chicago, Ill., engrs. CD 9/7—ENR [illegible]

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